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The Harveian Oration
ON
THE PASSING OF MORBID ANATOMY.[1]

Delivered at the Royal College of Physicians of London on St. Luke's Day, 1912,

BY SIR JAMES F. GOODHART, BART., M.D. ABERD., LL.D.,
FELLOW OF THE COLLEGE.

MR. PRESIDENT, CENSORS, AND GENTLEMEN,—Twenty-seven years ago, in delivering the Bradshaw lecture before our College, I stood in the place of a much-regretted Fellow, dead in his early prime, when, in a *retrospect* of his work, I had the more easy task of recalling still recent memories. To-day, when, in pursuance of the honourable duty that you, sir, in your kindness have imposed upon me, I try to look back into the mists of centuries, to the full life and ever to be revered memory of Harvey, no longer can one appeal to those personal recollections, in which we all could share and sympathise; in place thereof is an influence, a resurrection, and my outlook becomes essentially *prospective*.

THE COMPLETENESS OF HARVEY'S WORK.

Harvey's influence as it is permeating the avenues of time! What a subject, what an opportunity! Yet when some 256 years have come and gone since this annual commemoration of our benefactors was instituted by Harvey himself, what an impossibility in any but the most spectral form.

May I try to present it to you thus, on the wings of a thought—The Passing of Morbid Anatomy—as it flits across the horizon of pathology, and in so doing touches us and humanity at large? No doubt it has often been said or thought before that, apart altogether from the coming into being of any particular man, the circulation of the blood, even to the full extent of Harvey's demonstrations, must have become common knowledge sooner or later. Even so, in his time, with anæsthetics still in the womb of the far distant future, with instruments of precision hardly in their infancy, what a magnificent triumph of patient and determined observation was his, and it does but enhance the reverence we owe to him to add that the truest estimate of his fame rests even less perhaps on what he *did* than on how he *did* it; less on how he *did* it than on how he *said* it, or showed that he had worked it out in thought. It is the completeness of his work that is so surprising, and it is the plan of campaign that Harvey carried out by searching out the secrets of Nature with such deliberate self-content that will as a motive power stretch further along the ages even than the actual conditions that he demonstrated, great as these truly were and are.

Harvey taught us how to work and what to work at, and showed that the knowledge of the structure of our tissues goes far to suggest their functions. By actual investigation, by experiment, by what now goes by the name of "original research," and the reasoning and suggestion that emanate therefrom, the anatomy and even the larger details of the physiology of the circulation were worked out, and in the absence of any adequate powers of magnification, discovery in that direction must then have seemed to have reached its furthest limit. Yet who knows but what Harvey himself, physiologist, physician, pathologist as he was, foresaw or at any rate had some ideas about what the histology of the future was to tell. The book itself had its leaves uncut, but could such a mind as that altogether still the passion of the seer? He saw and taught that the knowledge of the skeletal tissues must come first; that this would open up some of the more pronounced changes of morbid anatomy, and their association with certain signs and symptoms of disease. Next, as opportunity developed, would come an inquiry into the *minute* structure of the normal tissues, and not till then would it be possible to interpret those finer alterations present in disease, or gain any appreciable knowledge of the subtleties of function. Such is indeed a sequence of events that has actually come about, and with which we are all familiar.

Within the short span of our own lives this is true for our own time, so let me dwell to-day on our earlier pathology, trace it as now, and prospect its future.

And no more pertinent introduction could I take than the history of the

GROWTH OF KNOWLEDGE OF MALIGNANT TUMOURS.

Years ago, when the scientific world was pulsating under the influence of the master mind of Virchow and of his cellular pathology, many of you my learned colleagues, kindly here to-day, were hard at work studying and describing the features of morbid growths, and trying to obtain an insight from the histological appearances of *how*, and perhaps *why*, they came. What did morbid anatomy and histology—the cellular pathology of that day—tell to the Mid-Victorian pathologist?

Well, it was known in those now seemingly far-off days that the *auto*genous propagation of tumours was not uncommon—one could see it almost any day in the post-mortem room—in the peritoneum for example, where a tumour originating in one part of that membrane was transplanted to another part, and was well rooted there. It was well known as the result of experiment that *exo*genous plantings in similar regard were seldom attended with success. Yet one noted that when sowing skin-seed, shall I call it, upon large sores some stimulus was forthcoming, something happened, that clearly set epithelium growing, and it often grew with considerable energy. This would apply to *auto*genous as well as *exo*genous grafts within the common species. I have always doubted if the import of that suggestion of skin-grafting has received quite its just meed of recognition in its physiological aspect. The observation is full of instruction when we try to trace the life-history of the living cell, and still more attempt to influence the progress of its *nutrition*, its *growth*, even its *very nature* perhaps, by stimulant or inhibitant, as is the aim, I take it, of the various grafting or tincturing processes by serum now in vogue.

Again, we knew, or thought we knew, that seats of worry were prone to take on malignant growth; that the well-known nag of clay pipe, of irritating smoke, of soot, was associated with epithelioma; we knew, or thought we knew, that simple and malignant tumours were liable to be found side by side in the same body, a point that I have repeatedly demonstrated in the dead-house, and that seems to me to cast a doubt upon the claim still maintained, I do not say wrongly so, that malignancy is something altogether apart from ordinary growth. But it was surmised by some from what was seen that a spermatic, or perhaps graft-like, influence was at work in the one group that was not to be seen in the other, and that, so it seemed to me, this influence gradually communicated itself to the cell structures in the neighbourhood until they ultimately shared in the process and fraternised with the ill-tutored agitator.

In this one respect, I may say in passing, the opinion then hazarded is not in accord with more recent work, which, on the contrary, goes to show that malignancy, even to its latest stages, is self-ordered and self-centred, and does *not* give a pattern to the surrounding elements. And yet, on the other hand, there is a suggestion of some more intimate relationship between the invaders and invaded, even in our latest information, for it would seem that the more matured tissues in which a new growth finds itself—the olds hands, so to speak—may possibly exercise a very effective restraint upon the young bloods, and thus preserve the ordered going of the locality by the drastic method of starving the newcomers out.

As one thought on these things who could do otherwise than peer into the future? and doing so I wrote 35 years ago: "What a subject for Darwin would be the cells of a cancer, if only they were tangible, if only we could observe the variations of tumours under judicious cultivation."

I have often said during these many years of search for an exogenous germ of cancer that I shall be disappointed if we find one, for malignancy, it may be only upon adequate environic invitation, already finds and fills its place as a

[1] This address was written in all essential details several months ago. To those who have read Professor Schäfer's recent utterance at the British Association it will be obvious that this hovers round a similar line of thought. So much did this seem to me to be the case that I had to ask myself the question, Is it well to deliver it? But there was no time to do otherwise, and, after all, it is based upon the ponderings of a life-time, so I have altered nothing materially.

sine quâ non of evolution. One likened the position then to that of the chemist who, putting together his scheme of elements, finds bits of his puzzle wanting, but knowing what their form should be he proceeds to look for them, finds them, and fits them in, the whole one purpose and one picture.

And thus regarding Nature, is there anything improbable in such a pathology of morbid growths? Is there not in the natural order of things, if so I may speak of what, in the empire of the corpus, becomes *dis*order, a place ready for it, a chance that such a thing *may come?* Are we wrong to expect that if a complex body is possessed of energy, or many centres of energy, for orderly growth and development, that this disposition or force will now and then slip its leash and run off on its own? An analogy of this kind seems to me to convey a workable conception of a scheme of malignancy, where ordered growth diverges by successive steps of variation, of indulgence of function, until cancer appears, until malignancy becomes the insanity, shall I say, of function. And does not an idea of this kind foreshadow and father, too, the modern doctrine of the individuality of protoplasm which I take to be taught by cell eating (phagocytosis) and other forms of irritative response of which now we hear and think so much?

The last effort of the friend of many here, the late Sir Henry Butlin, who was at work with us in the days that I recall, embodying, as it did, the results of 35 years of research and thought in this very region, surely all pointed to some such conclusion in his mind, for although his introduction of the term parasite is liable to misinterpretation, the parasitic cell was no other than some derivative of a protoplasmic human cell, and thus was parasitic, if at all, only in behaviour, to which the highest organisms must plead guilty, for are we not all of us at one time or another sponges on the world we live in? And regarding the living animal from the point of view of individualistic protoplasm, are some of the sports of our gardens so utterly divergent, genetically, from tumours of natural tissue; from the infective granulomata; or from the growth of a cancer? I should call the difference one of degree of vigour of growth, rather than of kind. Exuberant energy will out.

Think of the fact that X rays so stimulate the surfaces as to lead, in the first instance, to an excitement and proliferation of the superficial cells of the skin, and then too often to cancer. A most vital acquisition this to our knowledge: an obvious sign-post—not too distinct—upon the road we are travelling.

Here life from two worlds is perhaps forming into line, and as in the one, so in the other, say by some direct inducement to the cell, or adaptive alteration of the nutrient juices—photo- or chemo-synthetic in kind, may be—an intensive cultivation is brought about, one may even suggest that the equivalent of a top mulch is applied. Thus I see in cancer a home-grown weed, or a prodigal son, alas, by no means yet worthy of the fatted calf, and in my study I seem to light upon the fundamentals of eugenics, and indeed to hark back to their earliest dawn.

But however this may be, the trend of all recent work carried out by that splendid Imperial Cancer Research Fund realises the dream of the bygone pathologist, for a large part of the monumental labours of Dr. E. F. Bashford and his fellow workers during the last ten years, although showing that *exo*genesis is possible, and defining its limitations, has gone to point the fundamental necessity of the study of the *life-history* of the *individual cancer cell*, and, as you know, this has now been done and followed up in short-lived animals (the mouse), where alone it is possible, the results seeming to show, not that the environment, but that the individual cell is the master of the situation, and that the dominant issue that comes up is: What is there in that cell or influencing it that gives to it such an inexhaustible power of propagation, whence comes that boisterous energy of which I have spoken?

So in this quarter of study, as in others I must mention, we seem to have come to what is still but a mirage, to an inaccessible land, where histology perhaps may no further help, and where organic chemistry and physics must take up the running, and show what part they play in the origin of life; or if not that, we must search for and find the homologue of cancer in some still more embryonic stage of existence, and inquire of its habits there.

THE CHANGING NATURE OF PATHOLOGY.

Thus what we call pathology is growing up. But are we sufficiently alive to the fact that it is no series of stationary phenomena, but constantly on the move, like all else in nature, and in being so shifts its ground. That it changes absolutely you will, I think, readily admit. As I think of disease in the post-mortem room 40 years ago what alterations have we not seen. Pyæmia may be said to be wiped out; typhus is well-nigh forgotten; typhoid fever has altered; diphtheria seldom attains the initial severity that so often characterised it of yore, and is much more amenable to our attack; scarlet fever is of a much milder type; erysipelas is more of a rarity; malaria and Mediterranean fever have been run to earth; the late results of syphilis seem to me to be far less often in evidence; lardaceous disease so very common in our early days is now seen but seldom; and we have come at grips with acute rheumatism, and let us hope with tuberculosis. Probably as much might be said of other diseases, and all will I suppose admit that good *old* age is both more prevalent and enjoyable.

It is true that these ills belong to the great group of epiphytic diseases that has been abolished in direct response to the researches of Pasteur and Lister, and that there is no such evidence of any general move all along the line; but make away with even one large group of maladies, and how large a part of the morbid anatomy of the organs must alter too, and even then how little account would be taken of numberless arrested purposes that make for the beginnings of other diseases.

Pathology not only changes but it shifts its ground, when we really pursue it. There is no more striking confirmation of this than a comparison of the practice of the Pathological Society of London 40 years ago and now. Our meetings then were crowded with specimens of all kinds; a set discussion came only now and then as a sort of relish in the general *menu*. Now I am told that morbid anatomy is much less in evidence; we have left all that behind, and discussions of the intricate problems that are behind it occupy the attention of our members. Whereas we used to display disease in the gross, the results of disease, that is, we are now able to recognise finer changes, and more minute evidences of bioplasmic unrest, that are behind these results, and these are the goal that we make for now.

I say that these results must long ago have been suspected. I remember in the early days of ovariotomy making the observation that those who succumbed thereto were mostly those who had suffered from hæmorrhage into the parts concerned, especially, of course, into the peritoneal cavity. And examining the blood extravasated under these circumstances one could see it peopled with countless hosts of minute bodies that the bacteriologist is now in some measure able to name and to classify. It was evident even in the rude experiments of those days that blood was a favourable soil for their production, and one even had a suspicion that intensive cultivation lay there but failed to detect its presence.

And pathology still is shifting. We have not yet reached finality. Even bacteria are probably results and not causes: they strive with or cancel one another to ulterior ends, and we are gliding on in advance of the most painstaking morbid anatomy.

As I have just now suggested for cancer, look how near the chemist and biologist have come. I struck a hybrid the other day, a bio-chemist! In devoting himself more and more to the minutest germs and particles of protoplasm, the biologist is not far off the investigation of gases, and the chemist in concentrating his attention on gases is apparently overlapping pure physics, which seems to have established that many media supposed to be gaseous are really clouds of solid particles of inconceivable minuteness, borne along by a velocity of which no words can convey any adequate conception. It seems therefore not altogether within the realm of fancy to suggest that we may all be working now in some intermediate zone, on the confines between the three kingdoms of living energy—for the colloidal states of inorganic life, the crystalloids of biology, may perhaps allow of this expression of the facts—whose language at present we do not understand, and whose purposes or meanings we are therefore unable to interpret. I wonder!

Animate or inanimate, we are never outside life. Montaigne puts it very quaintly when he says, "Even as nature makes

us to see that many dead thing have yet certain secret relations to life." How like is radium, in all but death, to what I would call the aureole of life. Here seems to be one substance that is always spending yet is never spent; that has power within it to regather of its loss, and by its action on the cell may even be said to originate the function of vitality. But does the spirit of life die? It may correlate with other forces of nature; it may perhaps transfer itself to other forms of being; may it be that we begin to see that it might transcend the firmament of space. The physician thinks not of *death*, but of the *tenacity* of *life*, and of how long, save by catastrophe, it takes to bring the machine to a standstill.

Even in the presence of the pathologist death may be disputed. Many years ago there was what may be called a pathological axiom, that the pus cell was a dead cell. Yet it was at the same time evident that, unemployable or even obnoxious as regards its influence in the home, it had colonising proclivities that were charged with great possibilities in some new world. Dead, indeed, it might be from one point of view, yet from another one might say of it as Lord Curzon said once of the British Empire: "It is not a moribund organism, it is yet in its youth, and has in it the vitality of an unexhausted purpose." Where, indeed, is the demarcation in a degenerate cell—we call it so from a narrow, self-centred aspect—between life and death? We know of none, for even desiccated it does but pass into some more minute state of atomic subdivision that is almost certainly capable of renewed energy, although it may not as yet be within our ken to give an answer to the question, "With what body does it come?"

> One may change but one does not die.

All living things are rhythmic. Is it altogether otherwise with matter devoid of life? Within the cadences of that rhythm are the moan of disease, and the pause and silence of death, but the resurgam of life is ever the dominant of the song. And this is well illustrated by our growing appreciation of the activity of the pus cell. Laudable pus as it used to be called by a seeming contradiction in terms, I suppose on the altruistic plea that somewhere deep down in the worst of criminals there lies a warrant of nobility.

I know not whether *now*, it has still further *lost*, or *regained* a character, when, reappearing as the leucocyte of to-day, as hungry chickens rush for food, it revels in cannibalistic orgies, or else, as some may prefer, it fulfils the more useful, if more subservient, function of scavenger or destructor to the community. Then as my dreams suggest, reinforced by such omnivorous gatherings, by ionisation shall I say, amalgam, symbiotic fusion, or combine, these lusty atoms disintegrating and ambushing into still more minute particles, rearrange themselves within the confines of the body politic in which they find themselves, and thus perhaps re-incarnate some of the bacilli, cocci, and such other early and unstable existences as nature seems to have in store for us, for good and ill, within the cycle of living things. It seems, indeed, quite within the possibilities of the revelations of the future that germ and sperm of a sort are here at work, and that a primer lesson is thus conveyed not alone on the origin of *communities* but on the very beginnings of *existence*.

INVESTIGATION OF FUNCTION.

Now all these changes and shiftings of ground suggest to me the existence of a struggle on the part of the pathologist to find out some morbid change for every disease, and it is indeed admitted that we have been ever more and more reducing function to terms of structural change. But now the time has come when it seems worth while to insist that all this work upon the foundations—whether it be anatomical, histological, chemical, physical—has, unconsciously perhaps, but none the less inevitably, been ushering in another point of view than that from which we started, and the latest phase of pathology is this more intricate one that concerns itself primarily with the investigation of function. It is now no longer so much the morbid change, as the prejudicial function, that is to be our quarry, or rather the passage of the one into the other. It is to this point that the researches on cancer have come. As pathologists we are now trying to identify as it comes and passes that coign of clinical medicine—

> When that which drew from out the boundless deep
> Turns again home. .....

where a detrimental method of function commences devolution and sets towards decay.

And what numberless instances are there where with no accessible morbid changes this is the problem. Perhaps it may even be said that there is no disease, however much we think we know about it, in which this is not the problem still.

ARTERIAL TENSION.—IRREGULARITIES OF HEART MUSCLE.

Take this latter case first as exemplified by arterial tension (*de motu sanguinis*). It came first into more precise recognition in clinical medicine as a symptom of what we have known as a form of Bright's disease—a disease that is of structural change. But before very long it was noticed that it might be present under conditions when the examination after death showed no alterations in the kidney of any moment. So Bright's disease has been rechristened, and now we hardly hear of it. That postal address is now "not known," and you must inquire for arterial sclerosis. This disease is constantly being brought under our notice. Why so? Because particular signs are supposed to betoken it. But do they? Would it not be more true to say that they are its occasional cause? The point is that the search for a structural change has shifted its ground on to a functional disturbance—quite properly, as I think—and then incorrectly the arterial state has come to be regarded as due to the condition (sclerosis) of which it is in all probability the cause.

And then *de motu cordis*. Much work has been done of late upon the irregularities of the cardiac muscle. This work is well known to you and is of the very best, and not by a breath would I belittle it, for it is no doubt gradually emancipating a difficult subject of research from the mists of ignorance that envelop it and by true Harveian method. But I may perhaps be permitted to say as a caution, that it is possible to attribute to *disease* of the muscle more importance than by right belongs to it, and I believe it will be accepted in the future, as the result of further clinical observation, that many a case of arrhythmia where we now seem to be inclining to muscular disease is in truth an aberration of the higher cardiac centres, and as such no true example of pathological anatomy.

DIABETES.

Diabetes shall be my between maid—in part functional, in part, perhaps, otherwise. What morbid anatomy have we not sought in this disease and have not found it? Long, indeed, have many of us hovered over the alterations we had *hoped* to find and have not found them. Changes in the nervous system, in the pancreas, in the liver, in the blood, and so on.

To my mind there is no more splendid and yet pathetic figure in the whole range of medical history than that of Pavy. In early life he set himself to unravel the pathology of diabetes, and in so doing he planted himself with correctly forecasting eye at the spot that made victory certain, and to my mind he won it by taking the first parallel, but it may be doubted if he himself quite realised that he had done so, and there are those to-day who certainly think that he was defeated. I am not of that opinion. It has always seemed obvious when one considers how greatly the output of sugar varies even under the most rigid system of dieting that the excreted sugar could not be a mere output of what has been taken in: that the human kiln has, in fact, the power of in some way coining sugar out of its own constituent elements, and I believe that Pavy's ultimate credit for a real step onward in this still most intricate disease will rest upon his observation that the protein molecule is in some way split up, and that a carbohydrate molecule emerges therefrom. Still other parallels need assault. The question has now to be answered, What causes this seemingly inveterate sugar craze on the part of the proteins? This curious reversion, may we call it, to a plant-like metabolism in thus compounding with carbon to the rejection of its natural affinities. Is it nervous incoördination, or toxic disorganisation, or what? Again we seem to be driven back, cancer like, upon a *loquacity* of *function*, upon some misapplied vital energy behind the scenes with which as yet we cannot grapple.

Who, till within quite recent times, would have thought that a protein molecule could give birth to sugar? I trust there is no chemist here to-day. To one of a prim age it seems quite a surprising outcome, yet I understand that biochemistry is already quite familiar with it, and regards it as

an every-day occurrence, whether in the physiology of plants or animals. And how this must enlarge one's horizon of the subtility of energy that lies within the human kiln. The mills of God, the engines of Life, are indeed wonderful examples of an indomitably complete performance. They seem able to enforce within the organic confines of the body that extreme atomic disintegration we are now learning to recognise in the inorganic world, and which seems to suggest that even the stability of the primary elements, as they were wont to be called, is not immutable, that our gold, for instance, at some future geological day may lose its caste, and rank as some inferior substance.

Brought under such conditions of *continuous performance*, no wonder that our reactions are thus delicate and complete (not that we manufacture something out of nothing, as might seem to be the outcome of my argument), but that by such means a much greater and a more absolute resolution of ourselves is possible, and our primary elements being unfettered, renew their potential energy, and synthesise again by some of nature's seductively elastic methods as now still unknown or but guessed at. There is nothing strange in this. Our environment in diverse ways known and unknown is essential to the working of the machine, of course, but I *am* contending for the possibility *of still more direct* methods of combination that have become conceivable in these days of progressive physical knowledge. And from this point of view it becomes legitimate perhaps to try to catch a glimpse behind the veil of present attainment of the working of the obviously potent influence of climate upon temperament, constitution, and disease. For it is at any rate conceivable that light or electricity split up, energy in one garb or another liberated in this way or that, might make to waver between negative and positive some weak-kneed member of our society of constituents, might loosen the force of attraction that had hitherto kept its atoms bound; might thus katabolise our tissues, and involve new varieties of function in some hitherto unsuspected way. How, for instance, should plant life have photosynthetic metabolism all to itself?

It is to points like these, unsubstantial, even visionary though they seem, that pathology is now compelled to turn its attention. And in so doing, although there is still much to be done in the post-mortem room, it *is* leaving its *terra firma* of morbid anatomy (I say it with lingering regret), mapped out so well by the great masters of the past, by Bright, Addison, Peacock, Bristowe, Jenner, Wilks, Payne, and many another still happily with us, and to be betaking itself to *aviation*, a deadly dangerous albeit, as it must be, an earnest pursuit. Let us remember, lest we forget. And of the many pathological phenomena that I think emphasise this still more, and which I would fain call unequivocally functional, in their origin at any rate, I must yet mention one or two.

STRUCTURAL CHANGE CAUSED BY MORBID FUNCTION.

It used to be said that acute disease is mostly an outburst from a chronic one. This is but very imperfectly true.

It *is* true that many an acute attack of disease is supposed to be *de novo* when, as a fact, further investigation proves that it has followed upon pre-existing changes. But then these in their turn have come about in so insidious a manner that they have never been capable of recognition as disease at all, and I am here to-day to contend that the future of pathology will be a physiological one, the study of erratic function that has confirmed itself into an habitually baneful one. And I see no reason for limiting the pathology thus engendered to function only. It is surely permissible to hold that morbid function may bring about structural change. There is not an organ of the body of which this is not true, but how largely and obviously so when applied to the brain. A large part of the structural disease of the brain is led up to by slow and insidious misapplications of thought and action that ultimately declare themselves as pronounced disease, insanity thus becoming a cancer like mood of the cells of thought, as well as a mood of growth.

Another instance may well be fatigue, for it nowadays is a disease. What more common than to meet woman or man who is "So tired, always tired." We all know the machine that will not spark aright. Every movement an effort; even rest a pain. You know too well that there is nothing to be called structural change, and that even rest furnishes you with no remedy. It is clear that what is required is a fresh stock of some form of energy for charging up the machine that we are as yet not able to supply. So far away and yet perhaps so nigh. These are they who are born out of due time, the day of their like has yet to come. And with fatigue might well be coupled pain, for there are those who almost seem to be born in pain, and of a sort that no remedy seems able to assuage. Says the poet—

> The sweetest thing in all the world is pain
> Consoled by love;

but that is *extra medicinam*. Even more than death, pain is our hereditary foe; no quarter given. In olden days *hysteria* stalked abroad, but to-day a broader view of physiology would teach that pain is no certain indication of any existing morbid anatomy; that its intensity is always subjective, individual, aloof from standardisation; and it is evident that in such *chronic pain* one needs to recreate the nervous elements, or to instill them with some electroid that shall reset the spring of the machinery in motion, and guide it smoothly on its livelong bent. Nor, though it has been the quest of æons, does *this* seem to be inexorably beyond the knowledge of the future.

Of other groups of disease that might be mentioned few are of more abiding interest than that which concerns itself, again, with Harvey's realm and the finer processes of the circulation. How little we as yet know about these conditions, but surely distraught function is busy with them. Think what suggestions are contained in such an hypothesis as that of vascular spasm, or to put it more generally of peripheral stasis. Long years ago our trusty and well-beloved Fellow, now Regius Professor of Medicine at Cambridge, wrote a short paper on Mental Anxiety as a Cause of Granular Kidney. It was to me one of those illuminating suggestions that have added an interest to my life. I believe it to be abundantly true, as I do that similar malign influences, by dislocation in some way, as I suppose, of our correlated impulses, make for cancer. You must have often seen the nervous, anxious, worried man with the phenomena of high tension, and have felt able to predict *in posse* the future disease of this organ or of that. Such conditions, real diseases though they be, are but functional, but what a wealth of pathology is wrapped up in them.

Thus, as it is with life, so, in a measure, is it with its diseases. Life itself is a developing function; it comes to each one of us from the past, with innumerable atomic differences gathered by the way, and it passes on to each of our successors similarly changing. So that Professor Arthur Keith from another place can say to us that a thousand years is as one day, so like is *this* to *that*; yet also one day is as a thousand years, and in that day so multitudinous and infinite have been the changes that *life now* is *another life*—the same yet not the same.

This all too brief survey must suffice to show how much pathology there is yet in front of us if the future is to be disentailed of its heritage of disease, and how difficult it must be to acquire the information necessary to enable us to bring the aid we would to sick humanity.

FUNDAMENTAL NEED OF EXPERIMENT.

The outcome seems clearly to be: Experiment, and ever more experiment. We come, indeed, back to Harvey's teaching: to search out the secrets of nature by such means. But to that word experiment attaches no narrow meaning, and it is to humanity at large that I would now say, that it is quite as much your duty as far as in you lies, as it is that of special scientific inquiry, to search out thus by way of experiment those secrets of nature that are seemingly so elusive.

Look a little closer into this matter, O man of the world. To give an illustration that may appeal to you. To touch effectively that liver of which we are all so tenderly conscious, and regard with such blind solicitude, we have to deal with an organ that is occupied in coining the energy of its life out of elements organic and inorganic, that are for it, as yet, outside life. The continuity of life therefore itself becomes an experiment. Will this grouping of substances, this bio-chemical combination, come off; or will the individual atoms fail to synthesise, and fall back again into the sea of odds and ends still waiting for their purpose to appear.

Will the action, whatever it be, that may be done by you help it, hinder it, or be quite inoperative and unsuited to the end? Who can tell? The vitality and activity of the organ are pioneering on the outskirts of the origin of life, where their very existence is always at stake, and where the requisites are quite unfamiliar to you and me.

Clearly every single dose of medicine, every act done to influence such occult conditions is an experiment. The social instinct is very hypersensitive to the use of this word in relation to disease, but why? We all when ill become the prey of experiment. Even the man who does nothing is not exempt. I suppose that there has never been a dose of medicine administered, however much we think to have divined its action, that has not been in some measure an experiment. "It subdues pain," you say. Yes. "It strengthens the heart," maybe. "It arrests disease." No doubt. But how and why? They are the questions. And if it does these things for one of us why does it fail for others? Further, what else is it doing in the economy at large? Is its mission ended when your behests are accomplished? What about thyroid extract, Coley's fluid, atoxyl, and all the vaccines, sera, and so on, that are now coming into use, all powerful, even heroic, attempts to cure disease—what are they all in their use but experiments? And although the wind be tempered as far as possible to the shorn lamb—it is here that knowledge and experience come in—they are, and must be, experiments attended with risk.

There are some who think and speak of experiments as if they were performed only upon the lower animals, and the poor who cannot help themselves. The fact is that by experiments the worlds have grown, that experimentation is the one fundamental necessity of all progress, and the whole of animal life, life of every kind, to reap the benefit must share the risks and chance the pain. So each and all of us must think on these things and try to give such individual thought and observation as may be possible to the how and why of ordinary physiological reactions. We depend upon leechdom too much, and spend our time in thinking our leeches fools on the one hand, or an all-knowing Providence on the other, and seem to be prone to handle the wrong end of the stick when it comes to a pinch. But it is not wise to leave these matters entirely to the republic of letters. Let us learn to steer our own craft amid the smoother eddies and currents of life's stream, so that when the call to the pilot comes we may be able, as we shall be, to help him to apply his principles derived from wider sources and more tutored insight to the special needs of our immediate stress. As pilots we may also take heed of this.

THE PROSPECT.

And then what of the prospect? With problems such as these before an expanding science it cannot be one of royal pageant or of easy achievement, and it is certain that the future triumphs over disease will only unfold themselves to an ever-widening horizon that embraces all the latest advances of physical science as they bear upon the function of living. Yet would the possibilities seem to be limitless. With all the added information of recent years; the suggestions that have come to us from all directions by way of electricity and light and the ether that surrounds us; with all the forces that make towards us and for us, merging all nature into one ordered whole, who can do other than put to himself the question: Can it indeed be that we are come to look unto the rock whence we were hewn? Yet with spectroscopic insight, with darkness dawning into light, with mental flashes borne across the storm, with all these new aspects of nature surging upon us, who shall say that we are now familiar with all forms of living energy; that there are no other sources still to be made known to us? In the sigh of the wind, the spirit of a voice, the magnetism of a presence or a touch, or that ineffable something in face or form that the painter tries to catch; is there nothing travelling that other way?

I trust the larger hope.

To inquire into final causes, it has been said, inasmuch as they are beyond the grasp of the human intellect, is not the pursuit of a scientific mind. Such an opinion, since it would seem to ignore the stimulus, the insight, the instigations of the imagination, must be belated if ever it could have been true. Still reverencing as I do that attitude of mind thus expressed not long ago by Mr. Balfour, that to make the best of the future one must never ignore the past, you may perhaps think that, could Harvey have returned to us this afternoon, he might have looked askance at the future to which I have committed the influence of his immortality and the trend of the set purpose of his life. But methinks he would have absolved me, for where is that knowledgeful man, let him step forward that we may look at him, who has deliberately forsworn that pleasure, I will venture even to say profit, of a mind set free to roam awhile; who does not dream even while he works; whose mood is not rather:

> And I who with expectant eyes
> Have fared across the star-lit foam,
> See through my dreams a new sun rise,
> To conquer unachievèd skies,
> And bring the dreamer home.

It is thus that past, present, and future hold in one; why the Harveian orator at this annual festival is bidden by our Master's expressed will to commemorate the past, and the Fellows will count it indeed happy and appropriate that on such a day, by the filial and devoted generosity of its president, the College should receive its latest and priceless benefaction of the 11 recently discovered autograph letters, the very *ipsissima scripta* of William Harvey. Alive as these are with human interest, how as one looks at them the shade of Harvey seems to become re-embodied, and the passage of time to have been for the moment stayed.

THE PAST.

I sometimes think, Sir, that the mundane casket of our Harveian librarian must be as full of ghosts as a queen bee is of embryonic honey. These walls are alive with memories of benefactors of the College. The dead herein still speak to us, and here is harboured the tomb of many a brilliant but buried thought awaiting its emancipation that still tarries. And with Pavy, Hughlings Jackson, Wilks, Allchin, and others dear to us, all gathered to the Fathers of Medicine almost since St. Luke's Day last, what an addition to the supporters of the arms of this our ancient College even within the bygone year. And of the less recent past, who is there entering this library, and making his obeisance, Sir, to your presidential chair, that does not experience the charm of a great contentment when he remembers that the afterglow of Harvey and his followers still guides him on to that yet more perfect day of ever-increasing knowledge and less disputable truth.

> And though long sunk from sight, I know
> The glory of your afterglow
> Will never wholly fade.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.—The annual report of the council of the London and Counties Medical Protection Society, Limited, for the year 1911 once more demonstrates—if any sceptics still need demonstration—the very great value of this society to its members of the medical and dental professions. No doubt every profession and trade brings to those engaged therein certain anxieties of a legal character; but surely there is none whose members are so much and so unjustly harassed as the profession of medicine. But for the work of the protection societies, as evidenced to all whom it may concern in this report, the life of a medical practitioner or dental surgeon would be perceptibly more wearing than it now is. So essential to peace of mind and to safety of purse and reputation is membership of such an organisation, that examining bodies would deserve well of the General Medical Council and the profession if they would arrange for the inclusion of questions upon coöperative medical defence in their papers set to candidates on forensic medicine. The most interesting feature of the present report is the financial statement, in which is shown the working of the first 12 months of the indemnity insurance scheme upon which we commented last year. Briefly, the extra subscription of 10*s.* per member brought in £2474. Against this are set £250, transferred to general account to defray the extra working expenses entailed by the indemnity scheme; £386 premium paid to underwriters for re-insurance of the annual risk in excess of the first £2000 (for which the society itself is liable); and £3 10*s.*, the first and only claim upon the indemnity fund during 1911. A surplus on this fund was carried forward of £1850 in round figures, and this is entirely separate and apart from the reserve, accumulated out of income during the last 20 years, now standing at £5389. The society is certainly to be congratulated on its flourishing state and financial prosperity. It is noteworthy that almost the whole of its investments are in trustee stocks, which have suffered more than 5 per cent. of depreciation since they were bought. The present low price of these securities may be held to be an opportunity for "averaging" by buying more, but most of the insurance companies nowadays are investing in stocks which yield better interest and are redeemable at or before fixed dates.

An Address
ON
MENTAL DISORDERS.

Being the Presidential Address delivered before the Section of Psychiatry of the Royal Society of Medicine on Oct. 22nd, 1912,

BY SIR GEORGE H. SAVAGE, M.D. LOND., F.R.C.P. LOND.,

PRESIDENT OF THE SECTION; CONSULTING PHYSICIAN FOR, AND LECTURER ON MENTAL DISEASES AT, GUY'S HOSPITAL, ETC.

GENTLEMEN,—I welcome you to this, the first meeting of the first new section of the Royal Society of Medicine.

I have consented to give an inaugural address, somewhat against my feelings, for I believe that as this section is one starting with the full intention of work for the advance of medical science, time might have been better occupied in learning definite results of original work rather than in hearing generalities. I have to admit that I have had very long and perhaps exceptional opportunities of observing mental disorders, and it may be of service to record some of my impressions and hopes. I will shortly outline the past, survey the present, and prospect the future.

PROGRESS IN THE PAST.

Fifty years ago we were proud in thinking that we English were the great protectors of the insane. We introduced humane treatments and were content that the patients should be protected, while also society was safeguarded from injury. A time of heaping up of statistics followed, but it was long before the true spirit of scientific investigation arose, and it is for this work that we are now labouring. No time has been without its earnest workers, and we have to remember that men like Bevan Lewis, Wiglesworth, and others have done valuable work in large asylums in the north, and that Crichton-Browne encouraged men like Ferrier to combine general neurology with the investigation of mental symptoms. Many of us, too, have very grateful recollection of the bright and stimulating writings of Henry Maudsley, who, by endowing a hospital for mental diseases, is now doing his best to encourage original work.

I cannot pass over Hack Tuke. He was one of the hardest workers I have ever met, and he had a power of taking from others the result of their work and reproducing it without bias or personal colour. I regret to find how little notice is now taken of his Psychological Dictionary, for in it are very many evidences that what seem to the younger men to be quite new and original observations or beliefs are neither new nor original. Hack Tuke was a great recorder, and he has left a definite basis on which we may safely build. His dictionary is a mine of wealth still worth working. With Hack Tuke, too, passed the historian of insanity.

I cannot here refer to the many lesser lights that have during the past half century served to illuminate limited tracks along the paths of progress, as I must curtail my retrospect. Often advance is determined by some apparently trivial discovery, and in this way one cannot ignore the importance of the differential staining of the nerve tissues. When I consider the tens of thousands of sections of brain and cord which I made at Bethlem Hospital, using only carmine and logwood, I heave a sigh of regret at the lost opportunities.

The coarser anatomy of the nervous system with the recognition of the localisation of function, to which Ferrier added so much, was a starting point for more careful study of the intimate structure of the nervous system. I am fond of the idea that we are yet, however, only like the London cabdriver who has a most intimate knowledge of the roads and streets of the city, yet can know nothing of what is going on within the houses. It is certain that we shall know more of what is going on within, but I dare not believe that we shall ever fully understand what life and consciousness are.

OBSERVATIONS ON SCIENTIFIC METHODS.

Science must, after all, be limited by the restrictions of our senses. We are all governed by the organised inquisitiveness which we call science; we are collectors of facts, but we must avoid being mere fact-heapers, for in the multitude of mere facts not knowledge but confusion arises. Though immense numbers are not to be looked upon as certain bases to build upon, yet equally we must not be misled by the specious consideration of single interesting cases. The single swallow does not make a summer, but it may warn us of its coming; so the single case may direct our studies, but should not form at once the basis for a theory.

As we move onward we must define our knowledge. As Sutton said long since, definitions are of use for one to rest upon while one is peering into the indefinite. The definite, as he said, had ceased to be alive. Death and the dead were definite. A definition should be the starting point for further investigation. Our special experience must make us alive to the danger of taking fancies for facts, and feelings for constant realities. Statistics we must have, but their value depends chiefly on the collectors. Mott has given us good examples of their value and importance. It takes long training to make a good judge, yet in too many cases the medical observer is inclined to accept rapid one-sided decisions, forming a hasty judgment on a few facts. Let us be collectors and recorders, but at the same time let us recognise that what seems to us to be fixed and established to-day may in the future prove to have been only partially true.

It was only a few years since it was proved that no body heavier than air could ever be made to move under direction through space, yet now we have our aeroplanes which show that this idea was a mistaken one. It is in this way that I feel we must accept experimental psychology and psychic analysis. I still find leaders in medicine saying, What is their use? What have they added to medicine? We must not be always seeking for immediate results; we must be prepared to follow Truth wherever it leads. That related nerve areas indicated visceral disease seemed so unlikely that Head's most valuable contribution to neural physiology stood a good chance of being regarded as incredible and useless, but now we value the observations and see in them further possibilities, making us still more impressed with the unity of the whole body and how one member cannot suffer alone. There may be blind alleys, but yet many of these will open later. Science cannot be limited by the apparently utilitarian views. I have seen one year a boulder from a glacier, a crude mass, yet in another year transferred into a corner stone of a house. A dislocated but firmly established fact may later be the keystone of the arch of progress, fitting in and supporting the whole structure.

SOME MATTERS FOR SPECIAL INVESTIGATION.

And now as to our proper work. Probably we shall have to arrange for special subcommittees. It is certain that there must be a revising committee whose duty will be to select for publication only such papers as seem to them to be of real value; sections for the material pathology will be necessary, and, on the other hand, there is need for special investigation of the psychical research and of hypnosis. These subjects cannot be ignored, but they require the utmost care in their consideration.

Some among us see in the inquiries of Freud danger of dwelling on the unhealthy side of our organic nature, but just as we use powerful and poisonous drugs in treating disease, so we may have to make use of means which, when ill judged, may be dangerous. There is always more danger directly we approach subjects which cannot be fully recognised by our senses. For all we know there may be some simple material basis for the various spiritualistic exhibitions, but at present we have to remember that we are very easily misled by our senses, and that there is nothing more useful to mankind than prudent unbelief. Agnosticism in science is not infidelity, and we must cultivate it. We must have the open mind, for, after all, the scientific man, notwithstanding his training, not infrequently is the most self-satisfied and unreasonable person with whom you may have to do. I have elsewhere spoken of the danger of self-satisfied science. During the past summer, lying on mountain slopes, yet unable to forget that I had a great responsibility arising from my presidential address, I thought of many things, and among them some wild imaginations took possession of me, and I said to myself that after all imagination has had its uses. In fact, some great discoverers have thought that imagination is all important even in the most mechanical arts and sciences. Anyway, lying on a mountain slope I

considered the address of Professor Schäfer on Life and its Origin, and I must say it left me still a believer in something more than the mere chemical theory as to its origin.

All the elements, however arranged, are not equivalent to any living thing. Truly the chemist has built up wonderful so-called organic compounds, but they do not live. Tyndall was allowed in former years to propound the theory that life might have come from another planet, but that only shifted the weight from the elephant to the tortoise. I shall not be advancing knowledge, but I may start imagination if I say I contemplated a universal force, call it vital ether, as yet unrecognised and possibly beyond human powers to recognise, which like the astronomers' ether is universal and prevalent, this acting on what are called living bodies according to their structure. In the vegetable world the machinery, the receiver, is limited in its powers, while in the developing scale of animals the vital ether is more and more in deep relationship with the organism. As long as the organism can receive this vital force, it lives; when this power is lost the body becomes the mere clod. This theory caused me much pleasure in considering, but I admit it has no ground of fact, though it represents perhaps in a crude way all we know of life. It is nearly related, I recognise, to other views, both metaphysical and theological.

I thought of the captain of a ship who is constantly casting his searchlight into the darkness ahead of him that he may direct his course and avoid danger. So let imagination be as a searchlight, intermittent but penetrating. We must then be prepared to make experiment and trials even in what may appear unfavourable conditions, and we must be always ready to recognise our failures and be willing to try back. It is, however, rather saddening to see a distinguished man following some will-o'-the-wisp though his friends may warn him of his error. Yet his may be beacon light warnings. We may learn as much from our errors as from our successes.

As I have said, we must be diligent in collecting and recording, then will follow the classifying or arranging. In some cases naming is necessary—it is the evidence of advance, and has the value and danger of definition. A great danger arises from the too ready naming of groups of symptoms as if they were entities. A traveller in a new land often gives names to honour men who have discovered or who have attained a world-wide celebrity, and some doctors are inclined to give names of men to disordered bodily states. I think this is a mistake. Let our naming be more natural and have some relation to the pathology. When one sees the endless names given to disorders depending really on some central sensory disorder, one is either amused or disgusted, But it must be admitted that we Englishmen might be jealous if the name of our distinguished countryman Hughlings Jackson were disregarded in relation to epilepsy.

STUDY OF NERVOUS SYSTEM AS A WHOLE.

Hitherto, the two subjects of neurology and mental disorder have been separated, but with the more exact knowledge of the nervous system as a whole the distinction has become lessened, and neurology has claimed a very direct interest in mental diseases. This is doubtless an advantage from some points of view, but for those of us who have gone through a long training among the insane, it seems that the future neurologist needs such a section as this to give him help in understanding the working of the mind in disorder. The neurologist, following to some extent the lay public, looks upon asylum treatment as the very last to be followed, and even the alienist is forced by public opinion to fall in with plans which, after all, he believes to be only the second best. The prejudice against asylums may be said to be organic, but the dawn is near, and the mental hospitals and retreats will carry on the excellent work which our asylums have done and are now doing.

We here hope to study the nervous system as a whole. I have often quoted what Sir W. Gull said to me when I first went to Bethlem: "The brain is like a wealthy gentleman with many servants, and he may be badly served by any one of them." The brain, like the belly and its members, cannot suffer in part, and this is one of the most difficult lessons to learn and to teach, that though the mind may in many ways be apparently healthy, and though many of the reactions to the environment may be normal, yet the brain and the mind may be disordered. Almost daily I hear friends say that surely I cannot consider their relative mad, because he answers perfectly rationally when they talk to him on general or social subjects. There are only a limited number of ways in which the nervous system can express itself, and therefore similar symptoms will be present whether the central nervous system is primarily affected or whether its functions are interfered with by the misconduct of one of its servants.

It must also be never forgotten that so-called mental disorder is gauged in relationship to conduct, and that certain disorders depend more on the surroundings of the patient than on the patient himself. I have long been in the habit of referring to the social misfits which depend on the surroundings rather than on the patient. Social and mental disorders are nearly related, and one of our most difficult problems is to decide where the badness ends and madness begins. And here once more would I maintain that there are many mental disorders which deserve the name functional in so far that they are not represented by any material change in the central nervous tissues. Nature provides the iron, but man makes the horseshoe for service.

I have elsewhere written on morbid mental growths, and it is among such growths that we meet with some of the most intractable mental disorders. That the mean man should become with age a miser or that the cunning youth should become a thief is not surprising; yet I do not expect ever to find any special changes in the brain representing meanness or acquisitiveness. I recognise that want of something in the nervous workshop may cause loss of control, so that the person is no longer able to accommodate himself to his special surroundings, but this alone will have to be measured by means which at present are not available.

BODILY AND MENTAL RELATIONSHIPS.

The bodily and mental relationships are very difficult to follow—take as an example what have been looked upon as alternations of neuroses. I recall the case of a young woman who was admitted into Bethlem Hospital suffering from acute mania. This state of excitement lasted for some weeks, when suddenly she became sane but paraplegic. The paralysed state lasted for a time, to be replaced by a period of mania.

It has long been recognised that if certain cases of glycosuria become insane the sugar disappears from the urine. Hay asthma may be absent during a period of mental disorder, and only recently I met with a very rare condition in which migraine passing off at middle life was replaced by definite mental disorder. These are perhaps more readily understood than the relief of mental disorder by some form of physical illness, and I am inclined to think that the scourging of the lunatic in times past might have occasionally been a help to recovery. There is certainly no doubt that in the skin we have a vast distribution of nervous tissues which may be appealed to in treatment.

It is difficult to trace the relationship between cause and effect in such a case as this. A young officer suffered from a fall on his head and was sent home in a state of profound stupor. There was no power to rouse him. Skiagrams being taken there was some thickening apparently over the vertex. I may here say this was not found to exist. He was placed under an anæsthetic and a piece of bone removed. On recovering from the operation he was perfectly sane, and remained so for a long time; I believe later he had some relapse, but I saw him for some time after the operation and he was sane in every way. We found no indication of any local lesion. Such experience makes one think deeply.

THE QUESTION OF HEREDITY.

Waves of thought roll on and leave shore lines and raised beaches. Most of us here have watched the tide of evolutionary thought as represented by Darwin, Herbert Spencer, and Wallace rise, and though there have been some ebbs and flows yet the advance has been pretty steady and has left a shore which will never be obliterated. Weismann and Mendel are now beating on the coast of the indefinite, and they have still to establish their lines or fall back, leaving rounded pebbles of thought which may serve for future building.

It is certain that one of the most important parts, not only of our special work, but of the world's work, is the true consideration of heredity and its far-reaching influence. That much is transmitted from parent to child is admitted; the existence of "species" is sufficient evidence

of this, the persistence of type under varying conditions. I am one who cannot accept the belief that nothing acquired by a parent can be passed on to the child. In simple things, such as handwriting, I see direct transmission of habit. Probably the students of neurology and psychiatry are more impressed than the students in many other branches of medicine by the very clear evidence of the passing on of nervous disorders from generation to generation. Just as it is clear that many of the most fixed racial and specific characters are transmitted, so it is equally clear that some very marked nervous abnormalities are similarly transmitted, but it is also clear that the limit of transmitability is not known, for I am of the opinion that just as genius is rarely reproduced in the succeeding generations, so there are many of the nervous and mental disorders that, like genius, are not transmitted.

The general result of all recent investigation points to the occurrence of characteristics in children which were not present in the parents, but did occur in grandparents or in collateral branches. It struck me as an interesting suggestion that some of these masked inheritances might be uncovered during dream states, and that amusing essayist, Horace Hutchinson, even suggested that the dreams of flying which are common are reminiscent of the arboreal existence of our Simian ancestors. But, joking apart, that there may in dream memories be some ancestral memory seems possible.

I wish now rather to develop the question of heredity, though I have nothing novel to add to the splendid work done by Mott. This work is growing and its results will live. We have got so far as to disregard the older faith that there was a distinct evidence of passing on of disease as such. We now are content to say that a tendency is transmitted, that a soil is provided, and that other environing conditions are the true exciting causes of disease. The special or, I might say, the specific tendency to develop particular disordered states varies so that those prone to neuroses are not necessarily more liable to febrile diseases, though I have been very much struck with the tendency of members of certain neurotic families to contract any febrile disease which may be prevalent.

It used to be thought that the nervously weak and unstable were unusually likely to take phthisis, and the death returns from idiot asylums and similar institutions seemed to strengthen this belief. Certain of these families seemed as if they had lost the immunity which to a great extent saved the dwellers in cities and in populated places. They seemed to revert to the condition of those groups of isolated people which are met with in the islands of the West who contract and suffer severely from every epidemic disease which is introduced.

TRANSMISSION OF TENDENCY TO MENTAL DISORDER.

I do not believe in the transmission of any definite form of mental disorder, but I have met with instances in which both parent and child have had similar delusions, such, for instance, as that they had committed the unpardonable sin. In such cases similar education and surroundings occurring in the persons of a like temperament led quite naturally to similar delusions. We accept the inheritance of bodily likeness and of the material bases of thought and feeling, likeness in the senses and their reaction to surroundings, and it is, therefore, not surprising to find a tendency to inheritance of certain disorders of mind in which sensory troubles are most marked and potent in producing morbid conduct. It is almost universal in my experience to find the sufferers from organised delusional insanity to belong to insane and highly unstable nervous stock. The tendency to morbid habit, as seen in recurrent insanity, is also constantly associated with neurotic heredity. It is now almost universally recognised that long life is a family tendency, and parallel to this there is the predisposition to decay along certain lines; thus it is not uncommon to meet with families in which the arteries become diseased with age; and mental senility in one of its many forms may recur in each generation. I recall one well-known and distinguished family, the members of which all lived to advanced ages, but they all presented similar evidences of decay by failing in the brains first.

My opinion, then, is that there is no doubt that in certain cases there is transmitted a tendency to nervous or to mental disorder, but that only a certain proportion of cases in asylums can be proved to have had insane relations.

I have been interested to find that recent statistics bear out what was my experience, that at least one-third of all the patients admitted into asylums have insane blood relations. A very important point which Mott has brought out more clearly has long impressed me. It is that if the neurosis is to be transmitted it probably occurs in the offspring at an earlier age than it did in the parent. This is a very practical question, for when consulted, as I constantly am, as to the future of the children of insane parentage, particularly as to marriage, I always ask as to the age at which the insanity in the parent first came on, and the age of the child about whose future I am consulted, and I always oppose any marriage till the child has reached maturity, which I place at 25 years of age. This is only a provisional rule, but one must have some rule to go by.

The danger to the offspring of insane parentage depends, too, to some extent on the proximity of the parental insanity to the begetting or birth of the child. I have known perfectly healthy children, born some years before an attack of insanity, to be followed by neurotic children born after the insanity of the parent, and, what is more, I have known healthy children born before an attack of insanity while children born near the time of the attack have been unstable or weak-minded; and I have known, after a healthy interval of some years, healthy children again to be born. What was transmitted or what was withheld is unknown.

In considering heredity too much stress must not be laid on the existence of some forms of mental disorder in the family. As I have already said, insanity, like genius, may be an accident. It is certain that some families in which every form of neurosis has been represented have succeeded in breeding out of the tendency. I recall one instance in which various forms of mental disorder were present in one generation, but in the next, by suitable mating, nothing really morbid was seen. It is interesting to see in some members of such a family eccentricities or tricks of manner appearing, so that I have seen insanity in one generation followed by musical or other aptitude in the next, while in the third generation, or in some members of the second family, beside the normal members were some with tricks, such as the facility, untrained, of mirror writing. We must not believe too much in what Maudsley has called the tyranny of the organism. That conditions have very much to do with the production of attacks of insanity I have no doubt. One of my favourite similes in teaching on the question of heredity was to compare it with the mycelium of the mushroom. This spreads far and wide, and is not recognised till suitable conditions lead to what we call the mushroom which comes to the surface. So the neurotic inheritance spreads far and wide and is deeply seated, but the occasion for its development may be wanting.

THE FEEBLE-MINDED.

I cannot pass over the very important question (which runs some danger of becoming popular) of the position of the defectives and our duty to them. Several of you attended the Congress of Eugenics and there was no doubt about the earnestness with which the subject was considered. In this Congress the question of the transmission of mental weakness was very fully considered, and while I am as convinced as anyone can be that in many cases the feeble-minded tend to reproduce the defectives, yet some of the members of the Congress would include almost everything which was eccentric, and genius and folly therefore would both be isolated by them. The principles of eugenics must appeal to us all, but we must not forget what Professor James so forcibly pointed out, that attraction means something different when referring to the magnet and steel filings than when Romeo and Juliet are concerned. In the latter instance the attraction is not a mechanical compulsion.

We have to look upon the defective as being human and being very near most of us. There is no specific difference, only variation. And it is therefore not hard to explain why they tend to reproduce their like. It is fully recognised that it is rarely that great peculiarities in a parent are transmitted, but the slighter ones are. The social defective or the weakling with want of control is parallel to undeveloped man. This fact of the similarity of offspring to parent in defectives must have great weight in our treatment of such persons. Some, like many savages, can be trained but hardly educated.

WHAT MAY BE TRANSMITTED.

Before leaving the subject of heredity, having expressed my opinion and given my experience, I am still in great difficulty as to what may be transmitted, and what can be explained as simple reaction to surroundings of a mere mechanical nature.

Reflex arrangements are established and passed on, and it is certain that whether we consider instincts as survivals of past acquirements, or stages of the evolutionary process, they are passed on in the most complicated way. That a young water fowl should be able to swim within a few minutes of emerging from its egg (and this I have seen) is comprehensible, but that a butterfly should do what other beetles or butterflies have done though they have no immediate parentage is difficult to follow. I may give examples. In one case a medical friend interested in entomology had some eggs of a rare moth which he hatched in wardian cases, and the caterpillars in due course passed into the stage of pupa; in one of the cases the branches of a tree had been placed for their accommodation and the pupas resembled in colour the bark of the tree. In another case there were bamboo sticks and the pupas in that case resembled in colour the bamboo. This certainly looks like a simple reflex power of adaptation, but what can one say of the following taken from Kerner's Natural History of Plants? The Yucca moth emerges from its chrysalis case just when the large flowers of the Yucca open, each only for a single night. From the pollen of one of these flowers the moth collects and kneads a little pellet which she holds beneath her head with enlarged bristly palps. Thus laden she flies off to another open flower. She pierces with her ovipositor the tissue of the pistil, lays her eggs among the ovules, then darting to the top of the pistil she stuffs the fertilising pollen into the stigma. It has been proved that unless this moth visits the Yucca there are no ripened seeds. The grub consumes about one-fifth of the fertilised seeds, leaving abundance for the future of the plants. This process has been slowly evolved; one hardly dare in time compute the ages which must have passed in the production of this perfect arrangement. Something has been transmitted, we have to admit, or else you must accept a still more difficult solution—that each of the independent acts is a mechanical reflex to its surroundings.

If, then, we accept such possible hereditary transmission, I think we must be very careful in dogmatising on what may be reproduced in the offspring from the parents.

Next to heredity, *alcohol* has been looked upon as a potent cause of insanity, and there is no doubt that a good many patients are yearly admitted to asylums in whom excess has played a part in producing the disorder; but, again referring to Mott's work, there can be now no longer any doubt that certain people suffer in the viscera, while others suffer in their heads. It is interesting to note that in the recently published report of the Irish Commissioners in Lunacy they say the general conclusion of their investigations is that alcohol possesses comparatively small importance as a cause of insanity in Ireland.

INTERNAL SECRETIONS—EXPERIMENTAL PYSCHOLOGY.

I have referred to the waves of thought and their remains or effects. Now we are on what might be called the chemical wave. Cells have played their part, and bacteria are having a distinguished career, but the results of cells and bacteria are after all supposed to be chemical products.

I admit that the whole matter of blood and its various possible constituents is too much for me. I recall the happier days when working among the earliest of his pupils with Professor Klein some four or five constituents were allowed to the blood. Now as on every hand we have theoretical additions, I have to exercise a faith in them while I ask you to extend faith and imagination along other lines. Thus dreaming on mountain slopes I wondered what the internal secretion of the brain might be. The discoveries on the potency of these secretions are very striking. It appears as if every organ had a two-fold relationship: first with the greater world, second, with the smaller one of self. The central nervous system and its nerves are in wide relationship with the outer world, and yet there is the undefined and not understood consciousness which may be the result of the internal secretion. It pleased me to think of feeling and consciousness as the by-products of nervous action, and I could not help seeing in some instances of morbid mental states evidence that the idea was not altogether wild.

One of the dangers of the present time is that in consequence of physical discoveries things which have been looked upon as certainties no longer hold that position. I have already spoken incidentally of this, but now I have to say that what 20 years ago or less would have been laughed at is accepted as at least worthy of study. Though telepathy and spiritualism are outside our province unless they are considered from the morbid side, yet hypnotism, and suggestion, and psychical analysis have taken very important positions, and are doubtless associated with the rapidly developing science of experimental psychology.

We find in the comparatively new science most attractive work, and though the physician of to-day is still prone to ask "cui bono," I can only reply we must "wait and see"; that we are prepared to follow truth where it leads, and that a dim light is better than none in such darkness as the realms of life and consciousness.

CONCLUSION.

And now, gentlemen, I have rambled over a very wide field; I feel that I must leave it for you to cultivate. It is not forest or virgin soil, but it is productive, and earnest work will have its reward.

In concluding, I would say that, like Moses, I view a land of promise which I shall not live long enough to enter; yet, like him, I watch the battle, and as when Moses's hands were supported by Aaron and Hur Israel prevailed, so I feel that, supported by my two vice-presidents, my feeble efforts will be certain of some success.

REMARKS ON
INDUSTRIAL MERCURIAL POISONING AS SEEN IN FELT-HAT MAKERS.[1]

BY FRANK E. TYLECOTE, M.D. VICT., D.P.H., M.R.C.P. LOND.,

HONORARY PHYSICIAN TO THE SALFORD ROYAL HOSPITAL; VISITING PHYSICIAN TO THE SOUTH MANCHESTER UNION HOSPITALS.

Introductory.

THE association of chronic mercurial poisoning with the carotting process carried out by hatters' furriers has long been known, and as a result many methods of dressing the skins have been suggested as alternatives to the process of carotting, or brushing the fur with a solution of the acid nitrate of mercury, but all the suggestions have so far proved useless in practice, or have not had a fair trial, and carotting is still the favourite method of preparation.

In this paper, however, it is not my intention to deal with mercurial poisoning as it occurs in furriers, but as it is met with in felt-hat makers themselves, in whom in this country the existence of mercurial poisoning has been very little recognised, and is only scantily referred to in the literature. In America the work of Dr. Lloyd and in Austria that of Dr. Teleky have brought it into more prominence. Some three years ago I saw a case which exhibited the symptoms of chronic mercurialism in a hat stover—that is, a man who looks after the hats when the hard felt shape is being treated at a temperature of 180° F. in the stoving oven. On investigation I found that there were other such cases among the workmen in the same department, but that they were none of them recognised as suffering from mercurialism.

On looking up the reports of the medical inspector of factories I found that all the cases notified in previous years in the hat industry had occurred in furriers, and that no cases appeared to have occurred in the felt-hat factories themselves—the furriers' processes being conducted in separate establishments, and the fur being always bought by the felt-hat manufacturer ready prepared. In 1907, however, the attention of Dr. T. M. Legge had been called to the health of the felt-hat workers, and he had examined a series of them, finding definite evidence of mercurial poisoning in a slight degree in some of the men, but apparently none of the cases were bad enough to go off work and be notified, or if, as is more likely, disability did occur, then the correct diagnosis was not made, and the affections were put down as

[1] A paper read before the Fifteenth International Congress of Hygiene and Demography, Washington, September, 1912.

various obscure forms of nervous disease. This, at any rate, is the opinion, as expressed to me, of several medical men in practice in the hatting district.

As a result of my investigations following on my above-noted first case, some 20 cases have been sent to me since then, on the observation of which I offer some remarks below.

Some time later two of the workmen applied for compensation under the Workmen's Compensation Act, and lost their cases owing to their not discharging the onus of proof that mercury was used in the course of their occupation, which the respondents refused to admit; in each of these cases, however, an *ex gratia* payment was made. Last year a third case was tried, and a full award was made after Professor Walter M. Gardner, of Bradford, a copy of whose analyses I append by his kind permission, had proved the presence of mercury in the fur used and in the plankers' acid solution, and I had proved the diagnosis.

The Path of Entry and the Relative Risks of the Different Processes.

The fur-blower inhales a considerable quantity of dust, carrying with it the minuter hairs, and also particles of metallic mercury; as a result of this a bronchitis is set up by local irritation which often becomes chronic. In the cases where the mouth and gums of the blowers are healthy the lungs form the chief path of entry of the mercury to the system, and from the alveoli the absorption is probably easy, though the precise manner in which it occurs remains in doubt; the metallic globules are, no doubt, oxidised first, then dissolved, and absorption follows.

I wish to mention here that it is only among the blowers and finishers that I have seen any evidence of undue prevalence of respiratory diseases. In the other departments I have made inquiry, and cannot satisfy myself that chest diseases are unduly frequent, and in these latter I did not come across a single case of phthisis. I am quite willing to admit that the advanced cases of mercurial nervous degeneration—cases which have not been recognised as mercurial in the past—may develop phthisis in their last stages, just as any other case of chronic nerve disease may and commonly does develop and die from an intercurrent chest disease, but I think the idea that these workers are specially prone to phthisis dates from the time when the term phthisis covered a much wider field of disease than it does now, and that there is not sufficient ground for the general statement.

In the case of the planker the moist atmosphere containing mercury is such that it can easily be taken in by the lungs, digestive tract, and skin. Once the gums have become unhealthy we have an ideal absorptive surface for the action of the mercurial vapour. From this time the development of the symptoms of mercurialism proceeds much more rapidly. The planker exhibits considerable anæmia. The characteristic segs, callosities, and fissures on the plankers' hands must not be looked upon as due to the mercury itself; the plankers' acid is responsible for what may be termed a trade dermatitis, and as far as mercury is concerned all that can be said is that any open sores or fissures provide especially easy paths for its absorption. The segs and callosities are the result of constant friction.

The readiness with which mercury is volatile at comparatively low temperatures, especially if in slightly acid solution, accounts for the fact that the planker working at a moderate temperature is as liable to poisoning as the stover or presser who is inhaling very hot vitiated air. Most of the workers are quite careless about washing their hands after working and before eating, and very few clean their teeth. Some chew tobacco while at work, and no doubt contaminate it with mercury from their hands, especially the planker, whose hand is constantly wet. Several of my cases were alcoholic subjects, and I formed the opinion that alcoholism renders them more liable to attack.

Symptoms Relating to the Mouth and the Alimentary Canal.

In all cases of mercurial poisoning, whether acute or chronic, special attention has to be paid to the mouth, for it is here that some of the most distinctive and diagnostic signs are seen. To those accustomed to cases of chronic mercurialism some of these signs are quite diagnostic, but others may entirely miss their significance. The profuse salivation of acute mercurialism is hardly ever seen, neither does ulcerative stomatitis occur, but slight increase of saliva is the rule. The tongue is large, flabby, silvery or dove-coloured, with indented edges. The teeth are blackened, especially near the crowns, and the front teeth more markedly so than those further back. Caries is not often seen, and the process is rather one of erosion. The black eroded teeth are seen in their most typical form in the furriers and next in the plankers, so it is a reasonable assumption that the acid fumes play an important part in the causation of this condition. The teeth often show a considerable amount of tartar. Some degree of pyorrhœa alveolaris is common, and pus and blood may often be squeezed out of the sockets. The gums then become retracted, and soon the teeth become loose and may fall out. Dr. Legge has shown that they often fall in a definite order. The upper molars fall first. The mouth changes as a whole are more marked in inveterate smokers, and most of all in tobacco chewers. Vomiting was complained of in three cases; as a rule at night after work was over, but in two cases occasionally in the morning also. Diarrhœa was not a usual symptom.

I have several times heard medical men say of these cases, "If the man had worked in lead I should have said he had a blue line." This sentence explains fairly well the appearance of the gum margin, though the gum apart from the margin may be quite pale. There is *not* a blue line in the proper sense of the term—i.e., there is no line of granules; but there is often a cyanosed edge to the gum, which at a casual glance can be taken for a blue line. It is an almost uniform line, a purplish blue, not a "lead" blue. I should like to make a plea here for greater care in the diagnosing of a lead blue line. It is far too lightly diagnosed. Any line, or even any blue line, is not a typical lead blue line, any more than any spot is a typhoid spot; but to listen to evidence in the county court on occasion one feels that some, at any rate, give to it a much broader definition than others. In some cases there was slight œdema of the fauces and palate. The margin of the gum may be swollen.

The question of an odour must be mentioned. In acute mercurialism one has only to have smelt it once to be able to diagnose a case from it again at some distance. This is not so in chronic mercurialism, but I consider that there is a curious odour, definite, though not easy to describe, and not very pungent, but fairly lasting, so that it can be detected after the patient has left the room. Some would call it a metallic odour. It will be gathered from what I have just said that I regard this odour as a general one, emanating from the body as a whole, and not as a local odour, which is the case in acute mercurialism. Some of the men complained of a bad taste in their mouths, but they did not any of them describe it as metallic. Anorexia was mentioned as a symptom by two.

One case was quite different from the rest; here a blower of 25 years' service suddenly got an acute attack, which from the after-history was apparently mercurialism; he had profuse salivation, diarrhœa, and bloody stools; got better, went back to work, and in a week tremors began. Yet he had worked all those years with no signs at all. This is the only case I have seen starting more or less acutely, but most of my cases have worked for many years without the tremors—which in most cases first caused them to seek advice—troubling them really seriously; and there is no doubt, as Dr. Legge has shown, that many of those who are doing their work to-day in the various processes of hat manufacture are, in fact, suffering from chronic mercurialism to an extent which is, for the time being at any rate, compatible with the due performance of their duties. If any further proof were needed of this statement it is to be found in the fact that the average age of my cases when they came under treatment was 42·5 years.

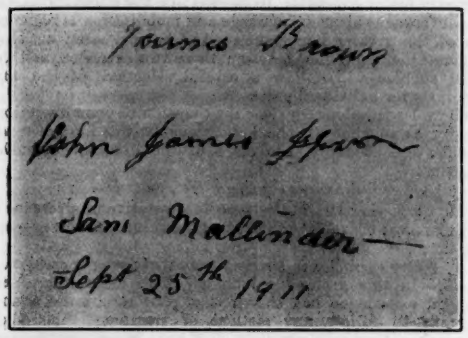
Symptoms Affecting the Nervous and Muscular Systems.

The symptom for which most sufferers first seek advice is the muscular tremor. This tremor is not so fine as some of the books on general medicine imply: it is rapid and irregular in amplitude. It is usually increased on voluntary movement, it stops during sleep, and when lying down it is much less marked, and in some cases stops then also. Charcot did not believe in a mercurial tremor, but thought it to be a rare form of neurosis. Contact of the hands with the rapidly revolving cone may be a factor in its onset in some formers; this will not account for the bulk of the cases, which occur in the workers in so many other departments.

The presence of this tremor—often called "hatters' shakes"—should lead to a systematic examination of the nervous system, but this very rarely brings out any of the definite signs of organic nerve disease. The knee-jerks are usually hyperactive, but ankle clonus and Babinski's sign are practically never seen.

The tremor is, as a rule, first noticed in the arms or hands; it may occur first on one side only, or be better marked or coarser on one side than on the other. In the cases in which the tremor rapidly becomes general the speech is often affected. Occasionally, on asking the patient to close the eyes a fine tremor of the eyelids can be noticed; and others, when asked to show their teeth, or, it may be, in the act of speaking, bring out in so doing a well-marked tremor of the lips and lower part of the face. The tongue may show it also. One man said his tremor was always worse when he was cold.

In many cases the tremor is well seen in a specimen of the writing of the patient, as in the appended reproduced autographs. In some of the quite severe cases, however, the writing showed no tremor. In some cases the tremor itself



Autographs of patients suffering from chronic mercurial poisoning, showing tremor.

prevents the workman from doing his work properly: in others it merely prevents him performing the finer movement for himself, such as those involved in buttoning clothes, and in lacing and unlacing boots.

Difficulty in locomotion may be complained of. One patient found great difficulty in getting up when he had once sat down in a chair, and *vice versâ*, due to stiffness of the muscles of the back, which rapidly subsided when he was taken away from work and put on treatment. Absolute rest in bed for a few weeks hastens recovery in these as in most of the cases.

Formerly some of the cases were diagnosed as disseminated sclerosis. On this issue it must be noted that nystagmus was only met with in one of my cases, while the alterations in the speech, which were sometimes of a stuttering or hesitating character, never assumed a staccato form. The mercurial tremor is finer than that of disseminated sclerosis, but coarser than that of exophthalmic goitre. It is, as I have said, increased on voluntary movement. In one case I found early optic atrophy. Two patients complained of dizziness. There may be general muscular weakness. The grip is often weak, and the gait may be staggering. The mental state may be altered; the patient may be in a very nervous state, which has been called—first, I believe by Kussmaul—mercurial erethism, but I have often noted some loss of memory or slight mental dulness, and these especially in the alcoholic cases.

Symptoms Affecting other Organs.

Considerable loss of weight is not at all unusual, while many look pale, sallow, and even cachectic: general pains are often complained of. I have no reason to think that the heart is appreciably directly affected by the mercury, and as regards its effect on the blood-vessels and as a cause of granular kidney I am sure that the effects cannot in any way be compared in severity with those of lead. There is usually some degree of anæmia, and complaints are frequently made of coldness of the hands and feet. Both Dr. G. E. Loveday and myself have examined several blood films for granulation of the red cells such as is seen in lead poisoning, but have never found any granules present. The lungs are, as I have mentioned, especially liable to attack among the blowers and finishers, but in the formers, plankers, pressers, and stovers, in whom most of my mercurial cases have occurred, I have seen no increased incidence of any pulmonary disease.

In two cases I have found traces of albumin in the urine, but one of these at least was a confirmed alcoholic. But though albuminuria has not been a symptom of specially noteworthy importance, scantiness of urine has occurred sufficiently often to be more than an accident. One patient, whose urine was perfectly normal, complained of it, and in those cases which I have admitted to my wards at the Salford Royal Hospital several of the charts have shown this very clearly; in most cases the diminution has persisted all the time the case was under observation.

Mercurial affections of the skin must be separated from those dermatoses met with in persons exposed to mercury, but in whom the skin lesions were certainly not caused by it. To this latter group belong the plankers' cracks, fissures, segs, and callosities, in the causation of all of which mercury takes no part, they being entirely due to the local irritation caused by the acid solution and by the manacles themselves. They have been well figured by Porter in his paper. Of the erythematous and papular eruptions which at times are met with in mercurialised subjects I have not seen any good examples in hatters. Twice I have seen localised scaly desquamation. The very gradual and long-continued absorption of the mercury apparently tells against the causation of skin lesions; they occur from time to time, however, in patients who are mercurialised medicinally.

In England we are not concerned with female labour in the hatting processes in which there is exposure to mercurial fumes, but in those countries where females are engaged in such processes abortion is frequent in those so employed.

Treatment.

Treatment may be divided into prophylactic and symptomatic. As has been mentioned before, all workers in the same department are not equally liable to mercurial symptoms. Some have an idiosyncrasy which early shows itself—I have seen two cases in youths. Others are rendered especially liable by means of alcoholic habits, or by chewing tobacco, or by omitting to wash their hands before feeding, while the vast majority, in fact nearly all, never use a tooth-brush and take no care whatever of their teeth. For these the remedy is plain. Pyorrhœa must be treated on the usual lines, and many teeth may need removal. Antiseptic mouth washes may be needed, of which sodium phenate and those containing hydrogen peroxide are the best. As the lungs are equally important as the gums, or more so, as a path of entry one was not surprised in one case, where all the teeth had been removed and the gums had become quite sound again, to find the tremor and muscular weakness still developing.

For all the processes where fumes are given off and in which dust is thrown out exhaust ventilation is the great desideratum, and this is now fairly well provided. The plankers' kettles vary a great deal in the efficiency with which they remove the fumes of the boiling acid solution. Those which have had affixed by the workmen to the metal hopper continuing curtains of canvas are far the least dangerous. These curtains should in my opinion be compulsory, though probably thin rubber would be a more satisfactory material than canvas. In the case of the longer metal hoppers the continuing curtains are unnecessary, but these do not allow the rinsing to be frequently repeated, as do the short hoppers. It is curious that a simple remedy like the curtains should have been introduced by the men themselves, and while it is merely optional it is only the more careful men who will trouble to put them on.

All cases coming under medical treatment should first of all have several weeks' rest in bed; this is good treatment for the anæmia, and enables the general muscular weakness to be combated by properly regulated general massage, while the weight will be found to rise steadily. The skin should be kept acting by frequent warm baths, and a saline aperient mixture should be regularly given.

Medicinal treatment has in my hands been confined in most cases to the administration of potassium iodide in doses of from 5 to 10 grains three times a day, and I am satisfied that this, in combination with the general treatment outlined above and the removal from the occupation,

does much good. Sulphur, recommended by Arlidge, internally and as baths, I have not tried so far. I have used strychnine with good effect when there was general muscular weakness; it does nothing to increase the tremor. Gull recorded great improvement in the nervous symptoms as the result of electrical treatment.

If there has been one attack it is inadvisable for the patient to return to work in the same department unless the attack has been a very mild one, and one in the causation of which habits have been an important factor, and a factor which has proved capable of definite improvement. In conclusion, I would like to especially urge the importance of hatters not returning to their work in a state of debility after an acute illness, such as influenza or typhoid fever, as I am convinced, from what I have seen, that in this state they are specially susceptible, and even if they have worked for years in mercurial fumes with apparent immunity it is likely to fail them now.

My thanks are due to Dr. Graham Steell for permission to refer to some of the earlier cases, which were in his wards at the Manchester Royal Infirmary, and to Dr. T. M. Legge, the Chief Medical Inspector of Factories, for many kindnesses.

Appendix.

The following is a summary of analyses of materials used in hat-making, by Professor Walter M. Gardner, Principal of the Technical College, Bradford, showing the percentage of mercury found:—

Sample of fur, No. 1	0·09%	In loose hair from planker's kettle	0·082%
,, ,, No. 2	0·16%		
,, ,, No. 3	0·095%	In cloth from continuation curtain	0·01%
,, ,, No. 4	0·14%		
,, ,, No. 5	0·175%	In planker's dilute acid ...	0·001%
,, ,, No. 6	0·17%	In strong acid	*Nil*
In a hat body	0·138%		

The amount of mercury in the hat was thus, roughly, 1 part per 800, or 1 oz. mercury in 400 2 oz. hats. Arsenic was also detected in the acid.

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Manchester.

Mr. John Marle, articulator of the Hunterian Museum of the Royal College of Surgeons of England, died recently at University College Hospital from pneumonia, at the age of 67. He had completed 47 years' service at the College, having succeeded the former articulator, James Flower, in 1876. He was an expert at identifying fossil bones.

THE OPERATIVE TREATMENT OF FRACTURES.[1]

BY ALBERT J. WALTON, M.S., M.B., B.SC. LOND., F.R.C.S. ENG., L.R.C.P. LOND.,

ASSISTANT SURGEON, DREADNOUGHT HOSPITAL, GREENWICH; ASSISTANT SURGEON, EVELINA HOSPITAL FOR SICK CHILDREN, SOUTHWARK BRIDGE-ROAD, S.E.

IN recent years the question of the correct treatment of fractures has become a burning one, but, in spite of the large amount of work that has been done, it is not finally settled. A perusal of recent literature makes it clear that all are agreed that the older methods of prolonged fixation are not satisfactory, but what method should be adopted in place of this is not so evident. Each of the newer means is so ably extolled by its exponents that a choice between them becomes impossible to those without a large experience of this type of injury. On the one hand, anatomical restoration, as carried out by open operation, is regarded as the primary factor conducing to success; on the other, functional repair brought about by massage and mobilisation is regarded as of the greater importance. As I have pointed out elsewhere,[2] the truth lies between these two extremes, and the best success will follow a careful selection of the two methods for individual cases.

Here I shall alone consider the question of open operation, firstly, as to what are the indications for this form of treatment; and secondly, the steps of the different operative measures.

Indications for Operative Treatment.

In discussing the indications for operative interference it will be most convenient to divide all fractures into four main groups.

I. *Where operation is strongly indicated from the commencement.*—In this group are included those cases where prolonged experience has shown that poor results are almost certain to follow any method of treatment other than operative—that is to say, there is always some complication present which effectually hinders bony union. The complications are three in number: (*a*) wide separation of the fragments so that it is difficult to bring them together; (*b*) tilting of the fragments so that, even if brought together, the fractured surfaces will not be in good apposition; and (*c*) intervention of some other tissue such as aponeurosis, tendon or muscle, which effectually prevents accurate apposition. Examples of such fractures are those of the patella, due to muscular violence, with separation of the fragments; a similar condition of the olecranon process; separation of any bony prominence serving as the point of attachment of a muscle, such as the greater tuberosity of the humerus, a condition seen with some cases of dislocation of the upper end of the humerus; and lastly separation of small fragments, the line of fracture involving a joint cavity, and the fragment being so small that it cannot be adequately controlled.

Here should also be included some cases where conditions other than the fracture, such as dislocation or injury of vessels or nerves, are present; but since in them operation is indicated, not on account of the fracture, but rather owing to the presence of the complication, it is unnecessary to consider them further from our present point of view.

If any such cases as the above be treated by more palliative measures, fibrous union will alone take place, the treatment will be extremely prolonged, and the limb will ultimately be weak and unreliable, whereas with adequate operative treatment the bones will be firmly fixed at once, and the limb can generally be used in part after the lapse of ten days or a fortnight. Therefore, where careful asepsis can be maintained the only counter-indication to operation will be some grave condition of the patient which prohibits the administration of an anæsthetic or the use of operative measures of any sort. Under such circumstances the limb has to be sacrificed as the lesser of two evils.

It is necessary to consider here the question of operative interference in cases of compound fracture. The first steps of treatment are clear: the wound and the fractured surfaces should be cleaned as thoroughly as possible and the deformity then overcome. If there be no tendency for

[1] A paper founded on a post-graduate lecture delivered at the Dreadnought Hospital, Greenwich.

[2] Fractures and Separated Epiphyses, London, 1910.

recurrence it will be unnecessary to fix the fragments, and the wound may then be treated on ordinary lines. If, however, apposition cannot be maintained, it is usually advised, especially by American surgeons, that the fragments be left until the wound is cleaner, no attempts being made to fix them in position. Later, when the wound has in part become aseptic, the deformity can be overcome and the fragments firmly fixed. To this method of treatment I am strongly opposed. If apposition cannot be otherwise maintained there should be no hesitation in firmly fixing the fragments with a metal plate. It is true that the plate will certainly have to be removed later, but the danger of increasing sepsis is very slight, for although it is almost impossible to make such wounds absolutely aseptic, it is possible in most to so lower the infection that it will be local in its effects. A sinus will persist, but at the end of three weeks the plate can be removed, the fragments being by that time more or less firmly fixed, and the sepsis will then rapidly yield. In a few cases of such infected wounds spreading sepsis will follow, but this is as likely to occur whether mechanical means of fixation be used or not. If, on the other hand, fixation be not undertaken until the wound is healed, so much change will have taken place in the ends of the bone and the surrounding tissues that accurate reposition will be difficult or almost impossible. There is, therefore, much to be gained and nothing to be lost by the use of a temporary retentive apparatus, temporary because sepsis, however slight, will prevent it being retained.

II. *Where operation will probably be required.*—Here will be included fractures which in some cases may be followed by satisfactory results with the use of palliative measures alone, but where in the majority operation will be required so that palliative forms of treatment should not be persevered with for too long a period. The best examples of such fractures are those which involve joint surfaces, such as T- or Y-shaped fractures of the humerus, femur, and tibia. The factors which in such cases make operative interference probable are three in number:—(*a*) Even slight irregularities of the joint surfaces are likely to be followed by considerable disability, so that apposition more accurate than is necessary in the case of the shaft will here be required; (*b*) the presence of blood and exudate within the joint cavity is prone to be followed by fibrous ankylosis, and can only be removed by open operation; and (*c*) passive movements will be required early, and such cannot, as a rule, be carried out unless the fragments are firmly fixed by mechanical means. Under these circumstances attempts at reduction should be essayed either with or without an anæsthetic. Unless the radiograph shows almost perfect reduction and early movements can be carried out the fragments should be fixed by open operation.

III. *Where operation should only be undertaken after the failure of other methods.*—This group includes the greater number of all fractures. It may be said that the chief indication for open operation is the failure of palliative measures to give accurate apposition.

The treatment of all cases of fractures of the shafts of the long bones should be along the following lines. Reduction of the deformity should be attempted, in a few cases without an anæsthetic, but in the majority with, so that muscular spasm may be fully overcome. If apposition be thereby gained no operative treatment will be required. If, on the other hand, a radiograph shows that the deformity still persists massage should be commenced aided by extension if the fragments overlap. If at the end of a week deformity still persists attempts at reduction should again be made, and, if still unsuccessful, operation carried out without delay. A longer interval than a week should not be allowed to elapse before operation, otherwise so much thickening will have occurred at the site of fracture, and so much change will have taken place in the surrounding muscles that reduction will be extremely difficult. The interval of one week will, however, not usually increase the difficulties to any marked extent. It is in this interval of one week that so much can be done, by the careful use of massage and the different forms of splintage and extension, to overcome the deformity and to make open operation unnecessary. It is specially to be remembered that in such fractures of the shaft of a bone there is no type which in itself demands operation. The only indication for such interference is the failure of reduction under adequate palliative measures, but in such cases the indication is definite. Thus, too much stress cannot be laid upon the necessity of having good radiographs taken in at least two planes. They should be taken not only before but after attempts at reduction, even if the appearance of the limb be such as to suggest that the deformity be entirely overcome. The number of disappointments that will thereby be received is surprising. By the routine adoption of such a method not only will malunion be avoided but also the greater number of cases of non-union, for such are due to the interposition of some material, such as aponeurosis, muscle, or tendon, the presence of which will prevent satisfactory reduction.

IV. *Where operation is uncalled for.*—Here are included those cases in which there is little or no separation of the fragments, owing, as a rule, to the fact that the surrounding aponeurosis, tendon, or periosteum is untorn. Such cases should be treated by support upon a splint so that excessive muscular action likely to tear these structures is prevented. At the same time regular massage and passive movements should be instituted so as to aid in the absorption of any blood or exudate, and, if the joint be involved, to prevent the formation of adhesions. Examples of such fractures are those of the patella due to direct violence where there is no separation of the fragments, greenstick fractures in children without deformity, and fractures of the carpal scaphoid.

Steps of Different Operative Measures.

Having decided that an operation should be undertaken it is now necessary to consider how this shall be carried out so that a successful result shall be achieved. The first essential is that of asepsis. It is necessary to remember that the ordinary precautions are insufficient in these cases where large quantities of foreign material may be embedded in the tissues. Probably perfect asepsis is hardly ever obtained, but whereas, in the case of abdominal operations, the tissues are capable of dealing with a considerable number of organisms, operations upon the bones, especially if any foreign body be left *in situ*, would under similar circumstances be followed by a condition of sepsis. Hence it is essential that a surgeon essaying this type of work should not only be certain of the results as regards asepsis in all cases of operation upon the soft tissues, but should in addition be prepared to exercise special care in the overcoming of all possible chances of infection, the most important, perhaps, being that the fingers, although carefully prepared and of course gloved, should under no circumstances be allowed to enter the wound, neither should any part of an instrument which has been in contact with the surgeon's gloved hand.

The skin must be most carefully prepared. The most satisfactory method is to have the limb carefully shaved and thoroughly washed 24 hours before operation. In hospital cases three or four days may often have to be devoted to the preliminary washing and softening of the thickened and hardened skin. Twelve hours before operation—that is, after the skin is again quite dry—the whole surface of the limb should be painted with a 2 per cent. solution of iodine in rectified spirit and a sterile towel applied. The painting is repeated just before the anæsthetic and again on the table.

A suitable incision is made over the site of fracture and of sufficient length to give free access to the fragments. The edges of the incision are now clipped to sterile pads, such as abdominal gauze-pads, which are turned back over the skin so that infection of the wound from the skin surface shall not be likely to occur. The outer surface of the bone is now cleared, all the instruments being long-handled, so that the fingers need not be inserted into the wound. Lane has had a complete set of instruments made sufficiently long for this purpose. The fractured surface is now cleared of all blood-clot, aponeurosis, turned-in periosteum, &c. In the case of a long bone this can often be best accomplished by having the limb bent at an angle by an assistant, so that the ends of the fragments project from the wound. If the fragments be small each can be rotated with a pair of forceps, so that the fractured surface faces the operator. The further steps of the operation will depend upon the nature of the fracture, and may be considered under the following headings.

Transverse Fractures of the Shaft.

In the case of a transverse fracture of a long bone the first difficulty is that of obtaining good apposition. In some cases this can be accomplished by manipulation with bone forceps or levers, whilst strong extension is applied to the

end of the limb. In more difficult cases, however, the best results are obtained by having the limb flexed at the time of fracture by an assistant, so that the ends of the bone project out beyond the wound. The two edges are then brought into contact, care being taken that there is no rotatory deformity, and held there with forceps whilst the limb is slowly straightened. By this means the contraction of the muscles is very forcibly overcome and accurate apposition obtained. The opposed fragments are now firmly grasped in a Peters forceps and so held until fixation is completed. This may be brought about by the use of a steel plate, which is undoubtedly more satisfactory than an intermedullary peg, and is the easier to apply.

The selected plate is passed under the blades of the forceps and the position of one of the screw-holes marked on the bone with a hand drill. The plate is then removed and a hole drilled to take the screw. The plate is replaced and fixed by a screw passing through it into the hole. The remaining holes are drilled in the bone through the screw holes in the plate, and the screws inserted into position.

FIG. 1.

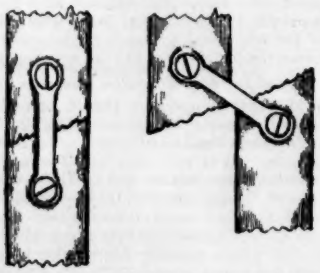
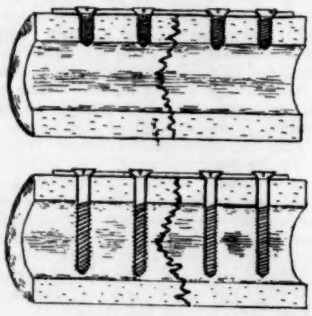


Diagram showing the lack of fixation when only two screws are used.

In fixing the plate there are many errors to be guarded against, and although the means of avoiding these errors constitute the most elementary rules of carpentry or practical mechanics, they are not uncommonly made when these arts are applied to surgery, and are responsible for a considerable proportion of the poor results. The rules to be observed are:—

1. At least three screws must be inserted, preferably two on either side of the fracture. If only one be used on either side the plate acts as a perfect hinge and allows the fragments to swing round. (Fig. 1.)
2. The plate must be strong enough not to bend or crack.
3. The drill must be chosen to fit the screw; it should be as wide as the shank only, and not as wide as the thread.

FIG. 2.



The upper diagram shows correct, and the lower incorrect, screws for use with plate.

Theoretically the hole should be drilled with this and a tap then screwed in to cut the thread for the permanent screw, as in the methods used by mechanics. Lambert[3] has advocated this method, but it is not usually necessary. A screw has been invented by O'Neill Sherman,[4] the entering end of which is provided with three flutes, which leave the cross section of the thread exposed for a short distance. These threads are thus made cutting surfaces, the screw acting as its own tap.

4. The screws must be short and with the thread cut right up to the head, otherwise the threaded portion will pass through the compact bone and be loose in the medullary cavity, the screw then acting only as a nail, which will be loose and the union thus unstable. (Fig. 2.)
5. The screw should simply be inserted until slight resistance to rotation is felt. If the hole be correctly drilled the screw will then be firm home. If rotated further, the thread of the screw or the bone will only be torn off and the screw thus lie loose in the hole.

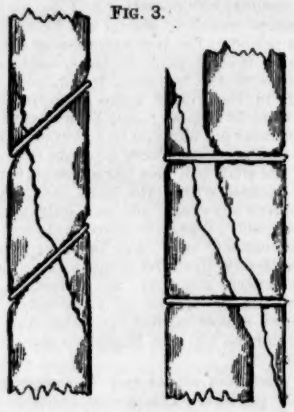
Oblique Fractures of the Shaft.

In cases of oblique fracture plates may also be used, but here there is a possibility of less secure union, for the screws nearer the line of fracture may be entering a thin plate of bone which may crack. In this case, after clearing the ends and reducing the deformity, loops of wire may be passed round the fragments so as to bind them together. Two loops at least must be used, and the ends firmly twisted together with forceps.

Here again there are several simple mechanical points which it is important to observe.

1. A slight groove should be cut for the wire to prevent it slipping. It need not completely encircle the bone.
2. The loops of wire should be placed either at right angles to the shaft of the bone or somewhat obliquely—that is, in such a manner that they tend to be more parallel with the line of fracture, for the tendency of these fragments is to override one another owing to the contraction of the muscles. With this obliquity such a movement would be associated with a closer approximation of the ends, whilst if placed with the obliquity in the opposite direction the fragments would readily separate and override. (Fig. 3.)

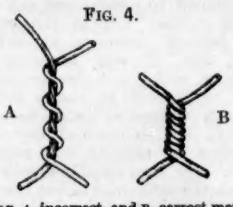
FIG. 3.



Diagrams showing the lack of fixation when the obliquity of the wire loops is incorrect.

3. In twisting the ends of the wire it is essential that the two pairs of forceps with which the ends of the wires are grasped be so held that each piece of wire makes the same angle with the vertical, otherwise one wire will alone be twisted round the other. Not only is the grip imperfect, but the twisted wire will also rotate on its long axis, and thus is almost certain to break. (Fig. 4.)

FIG. 4.



Diagrams showing, A, incorrect, and B, correct methods of twisting the ends of the wire.

[3] Annals of Surgery, June, 1911, p. 863.
[4] Surgery, Gynæcology, and Obstetrics, June, 1912, p. 629.

Instead of a wire the ingenious instrument of Lambotte can be used. This is shaped like a piece of wire split in its long axis, so that on section it forms a semicircle. On the circumference a screw thread is cut. A loop is passed round the bone, and when the two ends are brought together so that their flattened surfaces are in apposition they together form a cylinder with a thread cut on its outer surface. A nut can then be screwed over them and the loop thus tightened to any degree. The ends can then be cut off level with the nut.

Separation of Epiphyses.

With separation of the epiphyses and certain fractures it may be found that after reduction there is no tendency for recurrence of the deformity. Under these circumstances, of course, no method of fixing the fragments will be used. There are, at any rate, theoretical objections to the insertion of a foreign body, and if such is unnecessary it will be foolish to make use of it. It must here be remembered that if a plate be used to fix an epiphysis which otherwise will not maintain its normal position, it must always be removed later, for some of the screws being inserted into the diaphysis and some into the epiphysis the plate will prevent growth at the epiphyseal line, and thus the extremity either cease to grow throughout or become markedly bent owing to limitation of growth on the side of the plate.

T *or* Y*-shaped Fractures.*

In this case the difficulties of reduction will be considerably increased so that free exposure through one large or several smaller incisions will be necessary. Reduction must also be as perfect as possible so that no irregularity of the joint surface be left. When this is accomplished one of two methods of junction may be used. Most commonly with a T-shaped fracture the best results will be obtained by the use of a plate which is also T-shaped, but is, of course, placed in the opposite position to the line of fracture so that the cross piece of the plate passes over the stem of the fracture and the stem of the plate over the transverse fracture so as to unite the lower fragments with the shaft.

In the case of Y-shaped fractures it is often sufficient to firmly screw the two fragments together. In this case the screw should be longer, sufficiently so to enter well into the substance of the far fragment, and the thread should be more open, as here it is necessary to get a good grip of open cancellous bone and not of firm compact material. When this is accomplished the united fragments may so firmly grip the bevelled end of the shaft that mechanical union at this spot may be unnecessary. Should it be requisite, a plate may be used to join the united lower fragments on to the shaft.

Separation of Small Fragments.

When small portions of bone are separated operation is usually required, owing to the fact that muscles are attached to the fragments and thus there is considerable displacement. Under these circumstances the fractured surfaces must be cleared and brought into accurate apposition. Fixation is best secured by a long screw which passing through the fragment into the main part of the bone firmly fixes them together. The screw in this case should again be long and with an open thread which need not be carried as far as the head.

Transverse Fractures of Short Bones.

In the case of transverse fractures of the short bones the method of union will be different. Here owing to the smallness of the fragments the displacement is mainly one of wide separation in the line of the fibres of the muscles attached to the fragments. There is but little tendency for any lateral displacement. Under these circumstances a plate might also be used but is cumbersome. The most satisfactory method is the use of a wire suture which, it will be patent, is unsuitable for any of the forms of fracture previously considered. The two forms of fracture which above all others should be treated by this method are those of the patella and olecranon. The technical details as applied to the former will also be referable to the latter and therefore it will be necessary to consider the case of the patella alone.

The fragments having been laid bare, all clot is removed from the joint. A strip of gauze several layers thick is laid across the joint and under the fragments to prevent the entry of further blood into the joint. The surfaces of the fragments are now cleared of blood and aponeurosis, and drilled to take the wire. This is accomplished as follows. A small incision is made through the aponeurosis on the surface of the fragment on the surgeon's right-hand side, and a hole drilled through this fragment, from its outer surface, in an oblique direction, so as to emerge on the fractured surface just above the articular cartilage. By this means the articular cartilage is uninjured. If the fragments are now brought into apposition the point of the drill will mark a point on the fractured surface of the second fragment exactly opposite that in the first fragment. The second fragment, that is, the one on the surgeon's left-hand side, is now drilled. The point of the drill is made to enter the spot marked on the fractured surface, and passes obliquely through the fragment to emerge on the outer side. If a wire be passed through the holes in two portions, and the ends be firmly twisted over the outer surface of the bones, a simple wire suture will result. As I have pointed out elsewhere,[1] such sutures are, owing to the severe muscular pull, likely to cut out through the soft cancellous bone. This may be overcome by drilling a second pair of holes identical with the first, but at a distance of about half an inch to one side of them. The wire may now be passed in the form of a mattress suture, the two loops of which pass outside the aponeurosis. Such a suture cannot cut out, and will stand an enormous strain, so that recurrence is almost impossible.

Weymouth-street, W.

SOME REFLECTIONS ON GASTRO-JEJUNOSTOMY.

BY JOHN O'CONOR, M.A., M.D. T.C.D.,
SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AIRES.

IT is not my intention in this paper to venture upon the discussion of many theories, but to keep within my depth and view the subject from its practical side. I consider it a privilege to have the opportunity of acknowledging my indebtedness to Mr. A. E. Barker for his very lucid description of von Hacker's operation. Since I had the opportunity of studying it some 12 years ago I have consistently practised posterior gastro-jejunostomy. And I also wish to pay my grateful tribute to Sir B. G. A. Moynihan for many useful hints I have derived from his always fascinating and instructive contributions to surgical literature.

As to the class of case in which this operation is applicable, I may state that after a fairly extensive experience my conclusions coincide with those of most writers on the subject—viz., that in subacute and chronic gastric or duodenal ulcer and in benign pyloric stenosis gastro-jejunostomy is generally followed by excellent results. In the condition of muscular atrophy with atonic dilatation—parchment stomach—I have found it occasionally alleviates. In gastric immotility occurring in old or young persons with "hard" arteries such treatment is both futile and dangerous, and finally, as to its utility in gastric cancer I have nothing encouraging to impart.

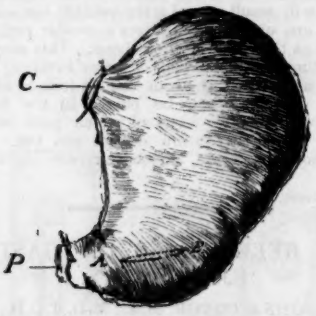
The interesting work of Dr. A. F. Hertz by the use of X rays has caused a revolution in some of our ideas of post-prandial gastric topography. I confess that after having performed very many cœliotomies I came to look on the transverse axis of the stomach as being under all ordinary conditions the long one, and I was very much entertained in reading and studying Dr. Hertz's lectures and diagrams, which prove beyond all manner of doubt that the long axis of the empty stomach, which one is accustomed to see on the operating table, is almost the reverse of what it is after a meal. His conclusions are supported by Dr. Ambrose Birmingham's gelatin experiment on the cadaver, "which showed that the organ when distended assumes the form of an irregular pear, and both cardiac and pyloric portions become full and rounded; at the same time the long axis of the whole organ becomes much more oblique, running downwards, forwards, and to the right."

These facts deserve careful consideration in relation to the most appropriate site for an anastomotic opening. What position for an artificial opening would be most advantageous for drainage purposes, with the least possible interference

[1] Fractures and Separated Epiphyses, London, 1910.

with the chymifying function of the organ, and at the same time obviating as much as possible the passage of chyme into the irritable pyloric antrum? I am assuming that the majority of gastro-jejunostomies are done for the relief of lesions in or near the pylorus. Considering that the long axis of a full stomach runs not only downwards, but forwards, I think the answer is fairly obvious, that if there is anything at all in the drainage theory of gastro-jejunostomy, an outlet to fulfil the above conditions should be made in the lower segment of the stomach, on the posterior wall of the greater curvature, extending to the right almost to the border of the pyloric antrum, and should be at the least from three to four inches in length—more or less corresponding to the line A B which I have taken the liberty of inserting in the diagram (Fig. 1).

FIG. 1.



A B, Suggested outlet. C, Cardia. P, Pylorus.

Notwithstanding the enticing simplicity of the Metchnikoffian creed, I still have such a profound belief in the use and pleasure of a stomach that I consider the less our surgical measures interfere with its glandular function the better prospect our patients will have of deriving permanent benefit from the operation itself.

Gastric lavage both before and after operation has frequently turned the scale in favour of success in abdominal work in my hands, yet for some reason or other I never much liked the idea of washing out an ulcerated stomach prior to operating, and by dint of experience I arrived at the conclusion that the contents in such cases could not be very septic, as proved by the fact that, although some escape always takes place when making the gastric incision, yet I have not had to record a single instance of peritonitis or parietal infection. In a paper in THE LANCET[1] I was deeply interested in reading the comforting result to surgeons of Sir Bertrand Dawson's gastric dredging experiments, and I was particularly pleased to find that the bacteriological hauls made by his ingenious bucket in cases of gastric ulcer did not in a single instance produce a hostile germ. Obviously this is the scientific explanation of the above empiric inference.

In THE LANCET I also read with much avidity Dr. Pasteur's oration dealing with massive collapse of the lung following abdominal operations, and was much struck with the statement that this complication is most often observed after operations on the stomach.[2] I, moreover, noted that he laid particular stress on the necessity of rapidity in operating on abdominal organs, in order to lessen the chances of what he so tersely described as "winding" our patients. Owing to the marvellous results of Listerism and improvement in the administration of anæsthetics, I think there has been a tendency during recent years, I am afraid particularly marked in the country of Lister, not to bother much about the number of minutes spent inside an abdomen. I have often read between the lines "go as you please." Personally, I am very glad that Dr. Pasteur has invited serious attention to this matter, for I am convinced that sluggish operating is a crime against reason, in that it favours the production of shock, it favours poisoning of blood by the anæsthetic, it favours diminution of resistance of organs to microbic attack, and by unnecessary exposure of cut surfaces favours the supervention of sepsis, and furthermore favours a not infrequent and dangerous complication—talk—with its accompanying spraying of spittle about the place. Murphy's axiom—rapid in, and more rapid out—should apply to all visceral surgery, and by way of a Hibernianism might I add—keep the mouth shut, and there will be no time for chat.

Gastro-jejunostomy, in my opinion, is one of many operations in which it is essential that the operator should be on the "top of his game" from start to finish. Nothing gives me more mental agony, or more post-operative disgust, than to find myself held up in the middle of a vital operation, and I must admit that nothing taxes my patience more than to see a surgeon dilly-dallying, as if waiting for some inspiration from heaven to guide him in his next move. How often does one see or hear of surgeons, presumably well educated in anatomy, dragging out coil after coil of small intestine before they can locate the first portion of the jejunum? and, again, how often does it occur during the insertion of continuous Lembert sutures in the stomach wall that visible vessels are punctured? These are bits of by-play that easily fritter away 10 or 20 valuable minutes.

I years ago adopted suture in stages by means of Dr. Alis's basting forceps, but soon found that even with the exercise of the most gentle traction these forceps frequently tore through (in many of these half-starved patients the coats of the stomach and gut are extremely friable), so I was consequently forced either to use clamps or make a careful study of what Dr. Alis so aptly described as the tailor's art. I adopted the latter, for although I am aware that many able surgeons find clamps convenient, yet I never could satisfy myself that their use quite fitted in with our cardinal surgical rule—see your cut bleeding vessel and tie it. As I happen to have had two deaths, both from intragastric post-operative hæmorrhage, I may be allowed to emphasise the importance of efficient stasis. Sir Berkeley Moynihan, in a comparatively recent paper on gastro-jejunostomy, invited attention to the expediency of making the gastric incision high up in the posterior wall, well above the superficial course of the gastro-epiploic vessels, in order, as I interpreted it, to avoid their puncture on subsequent insertion of sutures. His advice was in no way intended to minimise the necessity of effectively dealing with such vessels as may be, and must be, wounded on section of the stomach wall. The following extract from Cunningham will probably tend to make my meaning clear.

> The gastro-epiploic arteries lie beneath the peritoneum. Very soon, however, they pierce the muscular coat, which they supply, and reaching the submucosa, break up to form a close network of vessels. From these arise numerous small branches, which enter the mucous membrane, and form capillary plexuses around the glands as far as the surface.

From this I think one is justified in stating that, viewed anatomically, the submucosa is the dangerous zone, as far as invisible and serious hæmorrhage is concerned.

If surgeons who make use of clamps only employ them for approximation of surfaces, and do not apply them sufficiently tight to prevent cut vessels from bleeding, with consequent application of ligatures, then I have nothing to criticise, but if they should be used in a "trust to providence" manner, in the hope that the continuous suture *per se* may arrest all serious hæmorrhage, then I unhesitatingly state that while such a method may in exceptional and isolated instances be useful, the chance of disaster is great.

If anyone wishes to put this statement to the test, it is only necessary to observe the results given by a continuous suture, as a means of arresting bleeding in the simple Whitehead operation for hæmorrhoids, and I venture to predict that if he trusts to the suture alone there will be nasty hæmatomata to deal with at the finish. I remember a few years ago having had the pleasure of conversing with my most respected teacher Sir Charles Ball on the different methods of dealing with bleeding vessels, and he made a characteristic and deeply expressive remark: "They may say what they like, but I would sleep better the night after if I had tied them." I should think there are few to be found who will disagree with him.

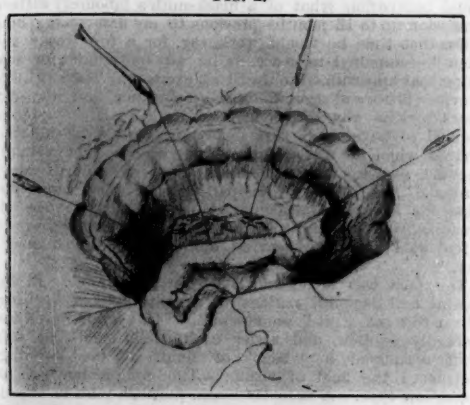
The operation which I have for years practised (with a slight modification since I studied Dr. Hertz's lectures), and am about to describe, contains little that is original, for in all probability many surgeons have from time to time adopted similar tactics. As stated before, I got the idea from Dr. Alis.

Ether by the open method having been administered, the abdominal wall, unwashed for 24 hours, receives its second

[1] THE LANCET, April 29th, 1911, p. 1125.
[2] THE LANCET, May 20th, 1911, p. 1330.

coat of tincture of iodine. The abdomen is opened, the transverse colon is drawn out, a slit is made in the meso-colon, and a portion of the posterior wall of the stomach is drawn through, pulling out from right so as to approach vicinity of pyloric antrum. Following Moynihan's advice, a 4-inch site is focussed, at least 1 inch above the visible gastro-epiploic vessels. My assistant picks up a transverse fold of the stomach wall in this line with his fingers, while I insert my right thumb and index finger into the duodenal fossa, and bring the proximal portion of the jejunum to the surface. A stay (interrupted silk suture) is then passed through the free border of the jejunum, as near as possible to its fixed portion, and then passed through the corresponding end of the stomach fold which the assistant holds in readiness. Three more stays are similarly inserted about 1¼ inches apart. Thus a 4-inch line for the primary (posterior) continuous Lembert is prepared. (Fig. 2.) The latter

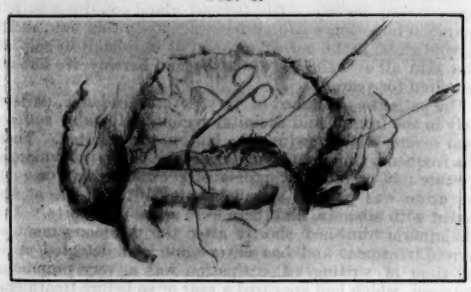
FIG. 2.



Primary posterior suture

is immediately inserted, and as it reaches each stay is tied to it, and continued to the next. Forceps having been previously applied to the ends of the stays, the assistant makes gentle traction, and provides me with a fixed well-defined area in which to make the gastric and jejunal incisions. These completed, the two central stays are cut short, all spirting vessels are seized with forceps and ligated, and then a continuous circular catgut suture is rapidly inserted, uniting the corresponding surfaces of the stomach and the gut. The assistant again makes traction

FIG. 3.



Anterior suture.

on the two stays at each end of the wound, and two more stays are inserted in the centre. Thus, again, the site for the anterior continuous silk Lembert is well delineated, and sutures are applied as before. Cleek-Childe's ligature forceps is now passed through the edges of the slit in the meso-colon, and one end of each stay is drawn through; these when respectively tied close the mesocolic opening and draw down the mesocolon to the level of the suture line. (Fig. 3.)

The advantages which this method affords are that it makes the operator master of the situation from beginning to end. The stays act as a fixed and sure guide for continuous sutures; they fortify the suture itself, in that the latter is tied to each as it passes. They act as excellent harmless tractors, and admit of no flopping about or slipping away of parts, and obviate the necessity for needle puncture, which I have often found gave rise to intra-mesenteric hæmatomata—an irritating set back at the wind up of an otherwise good 15 minutes' work.

I wish to express my best thanks to my colleague Mr. Macfarlane Walker for the above drawings, which almost render my very detailed description superfluous.

Buenos Aires.

A CASE OF LOCALISED INTRACORPUSCULAR SULPHÆMOGLOBINÆMIA.

BY HALDIN DAVIS, M.B. OXON., M.R.C.P. LOND., F.R.C.S. ENG.,

ASSISTANT PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE SKIN, BLACKFRIARS; LATE PHYSICIAN TO OUT-PATIENTS, CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

ABOUT Christmas time, 1911, there was admitted to the City of London Hospital for Diseases of the Chest a female, 27 years of age, with a face of most remarkable colour. Instead of being of the normal pink tint it was stained a deep slate blue, almost a blue-black. This hue prevailed all over the face and scalp and over the exposed part of the neck, but it could not be observed anywhere else except at the bases of the finger-nails. The bases of the toe-nails were of the normal colour. I particularly examined the mucous membranes and found that they were unstained. On the face the colour was most marked over the nose, but it was quite obvious in the sclerotics; the cheeks and forehead were also affected, but the ears to a slightly less degree than other parts. The colour could not be dispersed by pressure.

The family history of the patient was not illuminating. Her mother had died at the age of 49 years from some cause which could not be ascertained; her father, brother, and four sisters were alive and well. None of them had suffered from a similar anomaly of complexion. Inquiry into the history of the patient herself only elicited the fact that she had had measles when a child. She had not had scarlet fever, pneumonia, bronchitis, rheumatism, or chorea. There was no history of the application of carbolic acid preparations or of the ingestion of silver compounds at any time. Her face had assumed its present peculiar tint 11 years previously, at the age of 16, without any apparent cause, and had not changed since that time.

When the patient was admitted into the City of London Hospital for Diseases of the Chest she had been suffering from a certain amount of digestive disturbance, of which the chief sign was pain after meals; this symptom had lasted for three months. She was also subject to headache, dyspnœa, and sweating on exertion, with occasional palpitation and giddiness. Her general nutrition was good. Nothing abnormal was discovered in the lungs. As regards the heart, the apex-beat was in the fifth intercostal space in the nipple-line, and there was a slight systolic bruit in the mitral area. Otherwise the heart sounds were normal. There was no clubbing of the fingers. As regards the digestive system, the tongue was furred and the teeth were bad. There was no enlargement of the liver or spleen. The urine was straw-coloured, and acid in reaction; no abnormal constituent was discovered, and the specific gravity was 1007. There was thus no sign of alkaptonuria. The blood count showed red cells 5,280,000, white cells 6000, percentage of hæmoglobin 98, index 0·9. The differential count showed polymorphonuclear leucocytes 76 per cent., lymphocytes 20 per cent., transitional cells 2 per cent., and eosinophile cells 2 per cent.

The diagnosis of this case was difficult. The possibilities which presented themselves, and which had separately to be excluded, were argyria, ochronosis, hæmachromatosis, and methæmoglobinæmia or sulphæmoglobinæmia. The general appearance of the patient was very suggestive of argyria, and I was particularly struck by the resemblance of the case

to one which was shown by Dr. F. Parkes Weber[1] before the Dermatological Section of the Royal Society of Medicine in 1909. In that case it turned out that the patient, a female, had many years ago been prescribed a pill containing a quarter of a grain of silver nitrate, and that she had taken this pill for about two years. The most careful inquiry, however, failed to elicit even the possibility that my patient had ever swallowed a silver compound. The alternative of ochronosis was effectually barred by the absence of any abnormal colouring material in the urine. All the cases which have up to the present time been published of that condition have been associated either with alkaptonuria due to the excretion of homogentisic acid, a congenital error of metabolism, or with melanuria due to the employment of carbolic acid, extending over many years, for the dressing of a chronic ulcer.[2]

Although there was no sign of serious visceral disease and both albumin and sugar were absent from the urine, there was a faint possibility that the case might be one of commencing hæmachromatosis, and at one time I thought that this was the most probable provisional diagnosis. We had, of course, considered the chance that the real cause of the curious staining of the skin was due to an alteration of the blood pigment, but this solution seemed to be negatived by the facts that the abnormal tint was so curiously localised, and, further, a spectroscopic examination of the blood when first made showed no abnormal band of absorption. My friend, Dr. Gordon R. Ward, however, persisted in the opinion he had formed from the appearance of the patient that the case was one of abnormal blood pigmentation, and I was very glad to give him an opportunity of examining the blood himself. Without any difficulty he succeeded in demonstrating in blood taken from the ear the characteristic absorption band of sulphæmoglobinæmia in the red end of the spectrum. He thus rescued the patient from the limbo of undiagnosed cases. A little later Mr. Mackenzie Wallis (demonstrator of chemical pathology at St. Bartholomew's Hospital), who has for some time past been working on the subject of sulphæmoglobinæmia, also examined the blood spectroscopically. He first took a specimen from the finger; this was normal, and he was rather disappointed. I happened to be present myself, and suggested that he should try a specimen taken from the ear. In this specimen he had no difficulty in demonstrating the characteristic band.

The two facts that the peculiar colour of the skin is so definitely localised, and, further, that the spectroscopic characters of the blood vary according to the situation from which it is taken, combine to make this case, I believe, quite unique. Mr. Mackenzie Wallis also made some most interesting bacteriological investigations on this case, and succeeded in isolating an organism which in all probability is the cause of this condition. These investigations he will publish in a paper devoted to the subject of sulphæmoglobinæmia generally. He has been able to collect several other cases, all of the more usual type. For this reason I forbear from mentioning them further at the present moment or speculating on the probable etiology of the condition.

Additional note.—Since writing the above one or two other interesting points have come to light. In the first place, the depth of colour varies considerably from time to time, almost from minute to minute. For example, lately I have seen the tongue and lips quite blue, and then within a quarter of an hour they have regained the normal pink tint. Again, after having been out in the grounds for an hour or two on a rather chilly day the fingers, in addition to the bed of the nails, have been seen to be obviously affected. Lately, too, the pigmentation has shown a tendency to spread, and it seems probable that the curious localisation will disappear and that ultimately the discolouration will become obvious all over the body. Simultaneously with the deepening of the colour and its spread it is interesting to notice that the patient has complained of not feeling so well. Finally, I wish to express my indebtedness to Dr. W. J. Hadley, under whose care the patient was in the City of London Hospital for Diseases of the Chest, for giving me the opportunity of studying this interesting case.

Cavendish-square, W.

[1] Parkes Weber: A Case of Argyria, Proceedings of the Dermatological Section of the Royal Society of Medicine, 1910, p. 75.

[2] Poulsen: Ochronosis bei Menschen und Tidren, Beiträge zur Pathologischen Anatomie, vol. xlviii., pp. 346-498.

A CASE OF MYXŒDEMA.

BY R. S. NOVIS, M.R.C.S. ENG., L.R.C.P. LOND., B.SC.

FAMILIAR as the classical symptoms of myxœdema are, and universally recognised as the merits of the thyroid treatment are, I think it may be of use to put on record the notes of a typical case. The disease is not very common, and if the symptoms present themselves in any irregular or marked manner the diagnosis may not be immediate.

The patient, a man aged 60, first came under my notice in the early part of February last. Thyroid treatment was commenced on Feb. 17th. From the accompanying figures the remarkable alteration in his appearance is quite obvious.

When first consulted the patient had had symptoms extending over ten years. He had apparently followed his usual occupation (that of a blacksmith's labourer) without remission up to 12 months previous to my first seeing him. Since that time he would work, say, for a few weeks and then be compelled to cease, as he was quite unfit for anything that appertained to the least exertion. There was no previous history of any illness of importance, and up to ten years ago he was always in good health. His symptoms seemed to have made very steady progress, until the time arrived when he was quite worn out, and he had certainly become so weak and depressed that life indeed was a burden. His memory had particularly failed him, likewise his sight and hearing. A marked feature was his great sensitiveness to cold. He would, in his own words, "feel cold with the heaviest clothes on a hot summer's day."

The face was broad and coarse in appearance. In the frontal and occipital regions there were marked swellings which did not "pit" on pressure. The eyelids were most markedly swollen, and under each eyelid could be seen what resembled a "bag" of fluid. These swellings obstructed the field of vision. The complexion was of the sallow type. A vascular blush, purplish-pink in colour, was present on each cheek—more marked on the left side. The lips were thick and swollen, the lower lip being everted. There had been loss of hair for some years, and the scalp at this time showed a very distinct absence of hair. There were sparse ones scattered here and there, mounted on small dark brown crusts. The loss of hair had also affected the eyebrows and eyelashes. The eyebrows were raised, and there was well-marked "wrinkling" of the forehead. The hands and feet were swollen—in fact, the whole body presented the same "bloated" appearance. The œdema of the feet was well marked in this case, which "pitted" on pressure, and which presented the white "glossy" appearance of renal disease. This œdema usually disappeared in the night and returned again during the day. The thyroid gland could not be felt, but much importance cannot be attached to this sign, as the thyroid gland in the normal male adult is difficult to palpate. The skin all over the body was dry and harsh. He had not perspired for years.

The patient complained of very severe headache, particularly in the frontal and occipital regions. He also suffered from severe lumbar pain. He had never vomited. There was frequency of micturition during the night (no enlarged prostate felt, no other symptoms of prostatic enlargement); the urine was pale, of specific gravity 1012; it was at first loaded with albumin, and there were a few tube casts. This albuminuria vanished shortly after the commencement of thyroid treatment and has never again been detected up to the time of writing. Constipation was a very prominent symptom, which had appeared a year or so before treatment, and which entirely disappeared afterwards. The patient had also suffered from attacks of diarrhœa alternating with constipation. The heart and lungs were normal. The pulse was slow—60 per minute; the temperature was subnormal—96·2° F.

The speech was of a deep, slow, sonorous, drawling, thick nature. The patient complained of deafness and dysphagia. There was no "ascites."

Thyroid treatment.—Weight of patient at commencement was 13 st. 7 lb. Messrs. Burroughs, Wellcome, and Co.'s tabloids were used. Feb. 17th: 1½ gr. administered four

times a day after meals. 18th: Patient felt faint during the night. Was advised to rest for half an hour after taking each dose. Pulse 60; temperature 96·2°. Frontal headache and lumbar pain very marked. 20th: Pulse 64, fuller and stronger. Thyroid extract, 3 gr., as before. Cheeks not so full. Has perspired a little for the first time. 22nd: There are no untoward symptoms. Patient says he feels better in himself. Speech is not so thick and words come much easier. Cheeks are becoming more sunken. Swelling over frontal region less; very much less at back of neck and over suprascapular regions. Temperature still subnormal, 96·2°.

March 1st: Patient was now put on thyroid tabloids, 5 gr., twice daily. The bowels are acting naturally. The headache is much better; very little lumbar pain present. He says he feels as if he were losing flesh. He certainly looks thinner and altered in appearance. Pulse is more rapid and stronger. Temperature is normal for the first time. 16th: Patient put on tabloids, 5 gr., once a day. Improvement in general appearance is remarkable. He still feels somewhat weak. Passes urine in normal quantity; specific gravity 1020. No albumin or sugar present. No headache, backache, or constipation. 19th: Improvement still continues. Speech is normal. He feels much stronger. Has taken a walk of a mile for the first time since treatment was commenced. He did not feel in the least tired. He has also recovered his voice and was able to sing, not having been able to do this for many years. His deafness has completely gone.

April 1st: Patient still taking 5 gr. once a day. He feels much stronger. Pulse and temperature normal. 4th: "Peeling" is well marked on hands and feet, not present on the body. His weight is now 11 st. 11 lb. 11th: Is now taking 5 gr. every other day. He has continued to take this dose up to the present time (August, 1912).

The patient returned to his ordinary employment in the early part of June, 1912. I have kept him under observation. He says he feels strong and well, and has never felt better in his life. His appearance has entirely changed. Friends who have not seen him for some years remark on the wonderful alteration of his appearance and often fail to recognise him. His hair has grown considerably, and is quite as thick, he says, as when he was 20 years of age. From its previous greyish appearance it has now returned to a dark-brown colour.

There are some interesting features in this case. In the first place the patient had been treated for some time for renal disease. The white, "glossy" œdema of ankles, the severe headache, frequency of micturition, swelling about eyelids, low specific gravity of urine, presence of albumin and tube casts were highly suggestive of renal mischief. The diarrhœa alternating with constipation was also a prominent symptom in this case, and was at one time misleading, but the suggestion of malignant disease was contradicted by a progressively increasing body weight. Another point noticed in regard to the presence of albumin: during some days it was completely absent, or very nearly so. As the thyroid treatment continued there was no further evidence of the presence of albumin or tube casts. The urine is now normal both as regards quantity and frequency. Another symptom noticed was the excessive irritability of the skin, particularly at night. This has now entirely disappeared.

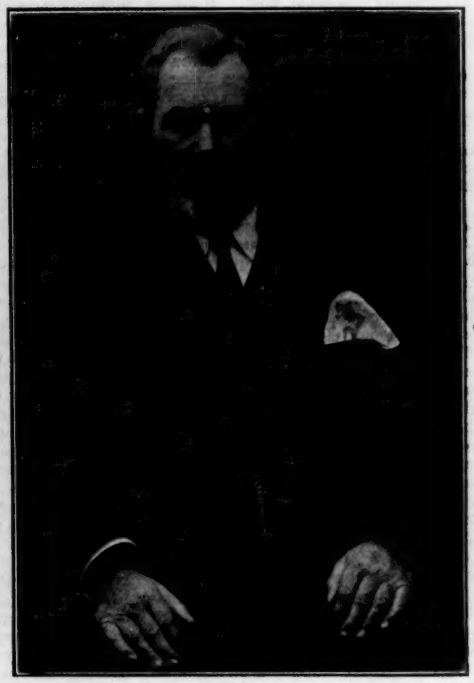
A few words in conclusion in regard to treatment. There is nothing in the whole annals of medical knowledge which gives better prospects of a cure. In my opinion an important factor in the treatment of this disorder is to place the patient rapidly under the action of the gland, at the same time noticing any untoward symptoms which may arise as a result of large doses. Moderate doses, as detailed in my notes, gave the best and most rapid results in this case. When the benefit is pronounced it is advisable to reduce the dosage until the patient takes a small dose every alternate day for practically the rest of his or her life. I also found that such tonics as iron, arsenic, and strychnine taken in combination were useful adjuncts in completing the cure.

Tuxford, Newark.

FIG. 1.

Reproduction of photograph taken on Feb. 17th, 1912.

FIG. 2.



Reproduction of photograph taken on June 5th, 1912.

THE PRACTICAL USE OF VACCINE TREATMENT IN PULMONARY TUBERCULOSIS.

BY BERNARD HUDSON, M.D. CANTAB., M.R.C.P. LOND

THESE few observations in vaccine-therapy, applied in cases of pulmonary tuberculosis, are the outcome of three years' experience of this treatment in Davos-Platz, Switzerland, on about 400 cases.

In many cases of pulmonary tuberculosis the process is probably a double one—the tuberculous process proper and a superadded infection with some other organism or organisms. This is accounted for in the following manner: The tuberculous focus being a part of lowered resistance, it is clear that it may very easily become the seat of an infection with one of the numerous organisms normally present (and doing no harm in the normal individual) in the respiratory tract, nasal passages, mouth, pharynx, and trachea; in fact, I find it difficult to imagine a perfectly pure tuberculous infection of the lungs, one where there is no other inflammatory process at work. Moreover, there are certainly many cases where the main symptoms are due to the superadded infection.

Now, it is plain that any added non-tuberculous inflammatory process is an undesirable thing in that it acts as a continual source of irritation to the affected portion of lung, and does not give the tuberculosis a fair chance of healing. If, then, we can eliminate the added infection we remove this source of irritation and give the tuberculous process a better chance of coming to an end, and it is here that the value of vaccines comes in.

The cases may be divided under the following headings: 1. Cases where the process is one of pure tuberculosis. 2. Cases where there is some non-tuberculous inflammation in addition, but where the tuberculous process is so obviously by far the most important feature of the case that the mixed infection may be disregarded. 3. Slow, chronic cases, where there is a good deal of fibrosis going on, together with a certain amount of bronchitis and bronchiectasis in the affected portion of the lung. These cases are very liable to become infected with the organisms of catarrh, and are suitable ones to try the effect of vaccines on. 4. Cases in which the main feature is not the tuberculosis, but in which chronic bronchitis dominates the scene, with a tendency towards periodical acute attacks. 5. Cases where there is a cavity formation. A cavity may become infected by some extraneous organism, leading to increased sputum, which is sometimes offensive. Also the temperature is raised, and there may be the occurrence of hæmorrhages due to action of the organisms on partially thrombosed vessels.

In Cases 1 and 2 vaccine treatment will be useless, the process being one of tuberculosis essentially, but in the category of Cases 3, 4, and 5, and, in fact, in any case where the physician suspects that some of the catarrh and general symptoms may be due to organisms other than the tubercle bacillus, the sputum should be cultivated and a vaccine prepared from the predominant organism. During the past three years I have prepared and administered vaccines to patients suffering from pulmonary tuberculosis in about 400 cases. Out of these there have been a certain number in which very marked beneficial results have ensued, the sputum quickly diminishing and in some cases disappearing, together with general all-round improvement. In other cases a certain amount of benefit has ensued, but not so marked as in the first group. But I am bound to admit that in by far the larger number of cases (70–80 per cent.) no effect whatever has been produced, either bad or good. I may as well take the opportunity of remarking here that although in many cases no beneficial result has been obtained, I have never seen any case where permanent damage has resulted from the treatment, or, in fact, anything worse than a little temporary malaise, rise of temperature, and local soreness and tenderness at the site of injection.

The negative results so frequently obtained may be attributed to the following reasons: 1. The case may not be one of mixed infection at all. 2. The difficulty, even in cases of undoubted mixed infection, of obtaining, among the varied flora which may often be grown from the sputum, the organism which is really causing the trouble. In all probability amongst the flora there are many organisms doing no harm at all, and exerting no pathological action, and a vaccine prepared from any of these will of course exert no action. If, on the other hand, one has the luck (and it really is, in my opinion, largely a matter of luck) to hit upon the organism which is really causing the trouble, then there follow the beneficial effects mentioned above. The extreme difficulty, then, of isolating the proper germ from the plate culture may, and probably does, account for the large percentage of non-successes which follow this treatment by vaccines prepared from the sputum. 3. The possibility of contamination of the sputum by the ordinary mouth organisms.

I have used vaccines prepared from a large variety of organisms, and the following is a list of those most commonly met with: micrococcus catarrhalis, dose up to 500 millions; B. Friedländer, dose up to 500 millions; staphylococcus aureus and albus, dose up to 500 millions; pneumococcus, dose up to 50 millions; streptococcus, dose up to 50 millions; B. septus, dose up to 500 millions. The best effects seem to be obtained in cases where there is an infection with the diplococcus catarrhalis. The dosage should commence with 10 millions, and be gradually increased at intervals of four or five days up to 500 millions, the sequence being something like this (in millions): 10 (millions), 25, 50, 100, 200, 300, 400, 500 (millions).

The B. Friedländer is always very useful to use, if present in the plates, the dose being about the same. (With the staphylococcus I have not had much success.) Pneumococcus should always be tried if found, and is often of great benefit.

Streptococcus may be frequently isolated, in cavity cases especially, and in this kind of case, with much offensive yellow sputum and high range of temperature, marked amelioration often ensues, the sputum diminishing and becoming less purulent, and the temperature abating a degree or two. As an example of the value of the streptococcus in a case where there is an infected cavity, I should like to cite the following case, which I observed during the winter of 1911–12.

Dec. 6th: Patient a male, aged 37. Extensive disease left lung, and extensive cavitation of upper lobe. Active disease arrested, patient very robust, and in good general health. Dec. 29th: Hæmorrhage, ½ pint, and rise of temperature, ranging up to 100° and 101° F. The bleeding stopped in two days, but recurred again in 14 days' time; again ceased, but recurred in another 14 days, and so on until he had had eight hæmorrhages with 14 days' remission between each. During this time the temperature was rising to 100° in the afternoon; the sputum was trebled in quantity, increase from 15 c.c. to 45 c.c., and was offensive.

After the sixth hæmorrhage I cultivated the sputum, isolated a short-chained streptococcus, and began injection. He had, it is true, after this two more hæmorrhages, but the temperature gradually came down, and the sputum diminished and became much less purulent and more mucoid. The patient was up and about again on March 15th, and is now quite well—i.e., he has no signs of activity, and has regained the condition of health which he had on Dec. 6th, 1911.

I explain this case in the following manner. His cavity became infected, and owing to ulceration through a vessel a hæmorrhage took place. This ceased and a clot formed. This clot was gradually digested by the organisms with which the cavity was infected, and finally was softened and gave way, thus giving rise to another hæmorrhage, and so on, the clot always taking about 14 days to become disintegrated. On elimination of the mixed infection the whole process ceased. This case was a most instructive one for me, and I believe I have explained it correctly. In any case, the value of the streptococcic vaccine was quite indisputable and very striking.

The vaccine treatment may be used in conjunction with various kinds of tuberculin, and the rational method of treatment, in cases which are considered favourable, is, I think, to try to clear out any mixed infection that may be present with an appropriate vaccine, and then, having removed a source of irritation from the infected areas, to commence injections of tuberculin, of whatever variety may be considered suitable.

To resume, in certain cases of pulmonary tuberculosis, which must be selected according to the symptoms already mentioned, a course of vaccine treatment is certainly of great benefit. There is, however, always a large amount of uncertainty, owing to the difficulty of isolating the causal organism; but even if the vaccine does no good, it at any rate never seems to do any permanent damage, and therefore is always worth trying. The treatment may be used in conjunction with tuberculin, as already mentioned. It must be

carefully borne in mind that any injection or other treatment is only an adjunct, and that the general hygiene, open-air, climatic and tonic treatment, systematic rest, and good feeding should be always strictly enforced.

Davos-Platz.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

VACCINE TREATMENT OF ACUTE PNEUMOCOCCAL TONSILLITIS.

BY S. P. SHIVDAS, L.M. & S.,

DIRECTOR, VACCINE THERAPY INSTITUTE, BOMBAY; MEDICAL OFFICER, BOMBAY PORT TRUST DISPENSARY.

A PATIENT, aged 37, was seen on March 18th, 1912, suffering from a severe inflammation of the right tonsil, the result of an injury caused by the breaking of a silver tongue-scraper in the mouth about eight days previously. The microbic infection was probably conveyed from this abrasion. The patient had some swelling and pain in the right side of his throat, with a rise of temperature to 100° F. On the next day it increased in severity with rigors, the temperature being 100·2° at mid-day and 101·6° in the evening. Pain was radiating in the right temple, eye, and ear; swallowing was difficult. On the third day the temperature rose to 102·2° in the morning and 102·6° in the evening, with great restlessness, pain, and inability to take even liquid nourishment. The swelling had considerably increased, with severe throbbing pain. The left side of the throat was unaffected. On the morning of the 21st, the fourth day, the patient got worse. The temperature was 103° and the pulse 140. Pain in the temple, ear, eye, and throat was intense, with great thirst and exhaustion. The slightest attempt to gulp down even liquids caused the most agonising suffering. In the evening the temperature rose to 103·8°. On the 22nd, the fifth day, his condition was extremely grave; the pulse was very small, with considerable exhaustion. The temperature in the morning was 103·8° and in the evening 104·2°. On account of great suffering the patient fainted twice on this day.

During these four days various remedies were tried, such as blisters, gargles, sprays, mixtures, hypodermic medication, and ice-bags, without any relief. Finally, vaccine treatment was decided upon. The surface of the affected tonsil and the surrounding parts having been cleared of the viscid secretion by a spray of a solution containing sodium and potassium citrates and chlorides, material was obtained for cultures by a platinum loop from the abraded surface of the tonsil and it was implanted on blood agar. Smears were also made for direct examination under the microscope. The smears showed epithelial cells in which were embedded a number of lanceolate, Gram-positive, capsulated diplococci with a few short bacilli and scattered leucocytes. Cultures after 24 hours showed a number of pure colonies of pneumococci and a very few of Hoffmann's bacilli.

Immediately after the examination of the smears a dose of 12 millions pneumococcus stock vaccine was administered at 10 A.M. on the 22nd, which was followed by a reaction for 10 hours with aggravation of the signs and symptoms. After this the pain in the eye, temple, and throat decreased. The temperature steadily lowered to 99·4° and the pulse to 100. On the morning of the 23rd the swelling had much decreased and the patient was easier. At this time a teaspoonful of Brand's essence of meat was taken with but little difficulty after four days of complete starvation. In the evening a return of symptoms was noted with rigors and a rise of temperature to 101° and pulse 120. The patient was somewhat restless.

On the morning of the 24th his temperature was 101·2°. His auto-pneumococcus vaccine being ready a dose of 15 millions was given at 9 A.M. A slight reaction occurred for four hours, after which there was a decided change for the better. The temperature gradually came down to 99° in the evening and the pulse was 85. There was very little pain in the throat and none in the temple, eye, or ear. A little liquid nourishment was taken without any pain. The swelling in the throat had greatly diminished, and the patient was able to speak a few words audibly after four days. He felt very well on the 25th and had a good night's rest, but sweated profusely between 1 and 3 A.M. On the morning of the 26th he was almost all right and made a fair breakfast of porridge, bread and butter, without any difficulty in swallowing. The swelling had entirely disappeared, and there has been no return of symptoms since.

During this illness the patient had lost 10 lb. in weight. Except only two doses, one of stock and the other of autogenous vaccine, no other measures were employed during the course of vaccine treatment.

Bombay.

AN UNUSUAL PNEUMOCOCCAL INFECTION.

BY LACEY BATHURST, M.B., B.S. LOND., M.R.C.S. ENG., L.R.C.P. LOND.

THE following case presents features which make it worthy of being recorded.

On April 6th a woman, aged 47, fell from a low stool in her own home, striking her left side on the stool. She did not appear to be seriously hurt, and did not seek medical advice till some seven hours later, when she presented herself at my surgery. A careful examination revealed no signs of any serious injury. The urine was normal, there had been no expectoration, there were no visible signs of bruising, and there was no shock. I advised her to rest as much as possible for the next few days, and ordered a belladonna plaster as a placebo. I did not see her again until twelve days later, when she sent for me on account of severe skin irritation caused by the plaster. She complained of headache, and had vomited, but temperature and pulse were normal, and she was about again apparently well in three days' time.

On April 26th I was again called to see her. Whilst going about her household duties she had had a severe rigor. She had severe pain in the left chest, painful cough, and was bringing up considerable quantities of typical rusty sputum, accompanied by blood. The temperature was 103° F. and the pulse-rate 136. Crepitant sounds and harsh breathing were to be heard over the whole of the left axillary region and the whole of the lower half of the left side of the chest behind. Within the next 24 hours typical bronchial breathing developed over the whole of this area. After the rigor had occurred the first urine voided contained blood, and every subsequent specimen became darker and darker in colour. On examination it was found to contain a considerable amount of blood and a large amount of albumin and tube casts. The patient rapidly sank, and died on the fourth day of the pneumonia.

A specimen of the urine was submitted to a pathologist (Mr. W. Gough, of Leeds), who reported that in films numerous capsuled diplococci having all the characters of pneumococci were found. In culture the same organism was found, but was overgrown by coliform bacilli. This leaves very little doubt that there was a simultaneous infection of the lung and kidney by the pneumococcus, and so far as I can find by reference to the authorities the condition is one of extreme rarity.

The history of recent accident (three weeks previously) is interesting, and might raise in certain cases the medico-legal question as to whether it could be considered a predisposing cause or a contributory cause of death.

Leeds.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. Samuel Macvie, M.B., C.M. Edin., J.P., was on Oct. 11th presented with a solid silver loving cup and a purse containing 160 sovereigns by his friends and the inhabitants of Chirnside in honour of his appointment as a justice of the peace and as an appreciation of esteem and regard. The inscription on the cup was as follows: "1876–1912. Presented to Dr. Samuel Macvie, J.P., along with a purse of 160 sovereigns, as a public recognition of the faithful performance of his professional duties, and in warm appreciation of his service to the community for the last 36 years. Chirnside, October, 1912." In addition to the presentation a mask was performed in honour of Dr. Macvie, the three goddesses of Healing, Music, and Art claiming him as their subject and follower.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Rupture of an Aneurysm of the Aorta into the Right Auricle.

A MEETING of this section was held on Oct. 22nd, Dr. FREDERICK TAYLOR, the President, being in the chair.

Sir JOHN BROADBENT described a case of Aneurysm of the Aorta which ruptured into the right auricle. The patient was a man, aged 40, who shortly after being crushed between the buffers of two railway trucks became very short of breath and developed œdema of the lower extremities and abdominal wall. The physical signs in the heart and pulse were those of aortic regurgitation, and traumatic rupture of the aortic valve was diagnosed. Repeated effusion into the right pleural cavity took place, requiring tapping every two or three days, no less than 42½ pints being withdrawn from the right pleural cavity in the space of a month. The man survived about four months from the date of the accident and onset of symptoms. At the necropsy there was a small aneurysm about half an inch in size immediately above the right posterior cusp of the aortic valve, which opened by a small slit into the right auricle. It appeared that during systole of the heart this communication between the aneurysm and right auricle would be occluded by the aortic valve as it was floated up, but would be fully open when the aortic valves were closed, so that blood would flow from the aorta into the right auricle during diastole. Sir John Broadbent referred to a collection of 43 cases made by Peacock of communications between the sac of an aortic aneurysm and adjoining great vessels or cavities of the heart, and also to a paper by Pepper and Griffiths on Varicose Aneurysms of the Aorta in which 25 cases of aneurysm rupturing into the superior vena cava were described. He contrasted the symptoms of rupture of aneurysm into the pulmonary artery with those of rupture into the superior cava, the former being mainly those of pulmonary engorgement, the latter those of obstruction of return of blood from the superior vena cava. He pointed out that in rupture of an aneurysm into the right auricle symptoms intermediate between the two might be expected, and in the few cases on record this appeared to be the case. In the instance he brought before the society the symptoms of obstruction to venous return were entirely absent, presumably because the aortic valve during systole of the ventricle also acted as a valve, occluding the communication between the aneurysm and right auricle.

Dr. F. PARKES WEBER said that, in spite of the history of traumatism in the case, there might have been syphilis, as there so frequently was in aneurysm, and, if so, that would account for the pleurisy and chronic effusion. Nowadays one would apply the Wassermann reaction to such a case, but, unfortunately, the fluid of pleuritic effusion gave a positive reaction when there was no evidence of syphilis, so that it was necessary to test the blood also.

The PRESIDENT referred to a paper on a kindred subject which he had published in the *Guy's Hospital Gazette* in 1884—namely, on aneurysm communicating with the pulmonary artery. Investigation of a number of cases showed that the cause of the murmur might be different in different cases. In his own cases of rupture into the pulmonary artery the murmur was not constant in time. Sometimes there was a systolic murmur, sometimes a double murmur, sometimes a quasi-double murmur. The occurrence of pleurisy, as in Sir John Broadbent's case, was exceptional. There were numerous cases of mitral disease in which the first symptoms were referable to congestion of the inferior vena cava, and not to the pulmonary circulation.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

A Case of Hæmatocolpos.—Gelatinous Glandular Cysts of the Ovary and the so-called Pseudomyxoma of the Peritoneum.

A MEETING of this section was held on Oct. 10th, Dr. AMAND ROUTH, the President, being in the chair.

Mr. R. DRUMMOND MAXWELL read a paper on a case of Hæmatocolpos with remarks on the Structure of the Vaginal Wall. The patient, aged 19, had been married a few months, and came to the hospital complaining of dyspareunia. There was no abdominal swelling and the external genitalia were normal; the introitus vaginæ was closed by a thick, fleshy septum, and when pressure was applied to the hypogastrium this septum did not bulge at all. Rectal examination showed the presence of a large, tense, cystic, intrapelvic swelling, the lower pole of which appeared to be about 1½ inches above the septum; it was of about the size of the uterus at the twelfth week of gestation. The physical signs suggested a hæmatometra rather than a hæmatocolpos, and it was in consequence expected that some disorganisation of the tubes would have occurred. Laparotomy was, therefore, performed, but the uterus and appendages were found to be perfectly normal. The supravaginal cervix was slightly dilated and disappeared into the tense, cystic mass. The abdomen was at once closed, as it was recognised that the condition was retention in the upper two-thirds of the vagina, the lower third not being canalised. Guided by two fingers in the rectum, an incision was made with scissors closely following the floor of the urethra, into which a sound was inserted. After blunt dissection upwards for about 1½ inches the lower pole of the swelling was reached. Before opening this it was freed from the paravaginal cellular tissue to enable a tube of it to be drawn down and stitched to the introitus. A little more than a pint of unusually thick tarry fluid was evacuated, and the circular edge of the tube was drawn down so as to project beyond the vulva. A thin strip of tissue was removed from both the anterior and posterior vaginal walls for microscopical examination. The hymeneal tissue showed the typical appearances described by Blair Bell. The vaginal wall was covered by epithelium, consisting partly of stratified cells and partly of high columnar richly muciniferous cells. In some places the columnar cells were superimposed on several layers of stratified epithelium; in other places the columnar cells were being shed so as to allow the stratified epithelium to appear. This appeared to negative the view that the stratified epithelium spread upwards from below and replaced the columnar cells, but suggested that the Malpighian layer of the skin first produced columnar muciniferous cells, and later a stratified layer. Mr. Maxwell suggested that the initial function of the columnar layer was to canalise the vagina by pressure from its mucin secretion. Several pseudo-glandular crypts, lined by columnar cells, and a few definite racemose glandular spaces were also found.

The paper was discussed by Dr. H. RUSSELL ANDREWS, Dr. H. R. SPENCER, Dr. T. G STEVENS, Dr. T. W. EDEN, Dr. W. S. A. GRIFFITH, and the PRESIDENT.

Mr. THOMAS WILSON read a paper on Gelatinous Glandular Cysts of the Ovary, and the So-called Pseudomyxoma of the Peritoneum. He said that certain glandular proliferating cysts of the ovary were made up of solid jelly-like material in a multitude of small loculi with delicate transparent walls, which were prone to rupture and allow a free escape of the gelatinous contents into the peritoneal cavity. Here the gelatinous substance adhered closely to the parietal and visceral peritoneum, and even found its way on to the upper surface of the liver, spleen, and stomach; the omentum usually formed a very thick, hard plate. Such cases were formerly known as colloid cancer of the peritoneum or ovary, and might be conveniently termed pseudomyxoma of the peritoneum; they probably formed from 2 to 4 per cent. of the cases of ovarian glandular cysts. Firm gelatinous cysts of the ovary that had not ruptured were also met with; but these were found usually in single and nulliparous women under 40, while true pseudomyxoma was found most frequently in married multiparæ between the ages of 40 and 60. The onset, symptoms, and physical signs of pseudomyxoma of the peritoneum did not differ notably from those of the ordinary glandular ovarian cyst, and in none of the six cases here related was there any symptom or sign of previous perforation or rupture of the cyst wall; neither was the peculiar nature of the ovarian affection suspected in any of them until the abdominal incision was made. The affection of the ovary was unilateral, the pedicle usually well formed, and the Fallopian tube and mesovarium generally unaffected. The gelatinous substance contained pseudo-mucin; the cysts were lined by a single layer of typical secreting epithelium. The parietal and visceral peritoneum in contact with the effused jelly might be unchanged, but usually showed signs of chronic irritation due to attempts to absorb

or encapsule the gelatinous substance. In a certain number of cases true implantation metastases with living and active secreting epithelium were found either on the surface or in the spaces of the subserous tissues. In one case seen in the post-mortem room, and apparently belonging to this group, a large, gelatinous, metastatic growth was found in the middle lobe of the right lung. The treatment, formerly very unsatisfactory, appeared to have improved considerably of late years. Paracentesis was useless and highly dangerous. The most important point was to remove the gelatinous material as completely as possible, and this was best accomplished by copious flushing with normal saline solution, which caused the jelly to swell up and become loosened from its attachment. Even in favourable cases the prognosis as regards freedom from recurrence must be doubtful, since small collections with living epithelium might lurk unobserved in some of the recesses of the peritoneal cavity, and burst into renewed activity after a longer or shorter time. The notes of six cases were given, in one of which there were true metastases. Four of the cases had remained well after operation for periods varying from one to more than eight years. A chronological list of references was appended.

The paper was discussed by Dr. ANDREWS, Dr. J. MUNRO KERR, Dr. SPENCER, and Dr. EDEN.

PATHOLOGICAL SECTION.

Thyroid Action and Reaction.—The Microscopic Structure of Urate Calculi.

A MEETING of this section was held on Oct. 15th, Dr. R. T. HEWLETT, the President, being in the chair.

Mr. RUPERT FARRANT read a paper on Thyroid Action and Reaction, with special reference to the formation of thyroid tumours. As the result of observations on clinical and experimental toxæmias and the effects of thyroid feeding, he came to the following conclusions: 1. The thyroid undergoes hyperplasia in certain diseases; this hyperplasia resembles that following partial thyroidectomy. A similar hyperplasia is induced in guinea-pigs by the injection of diphtheria toxin, and is mitigated if thyroid administration be combined with the diphtheria toxin. These guinea-pigs also survive longer than control animals. 2. The blood serum of a thyroid-fed rabbit is antitoxic to diphtheria toxin. 3. Antitoxin fed to normal rabbits produces symptoms similar to those arising from feeding thyroid, whilst in thyroidectomised rabbits antitoxin is borne without symptoms. 4. Diphtheria antitoxin contains iodine in organic combination; normal horse serum contains but the slightest trace. This indicates some close relationship between the thyroid function and the development of certain antitoxin. It may be suggested that the hyperplasia observed in these toxæmias arises from the attempt to form antitoxin. With regard to the formation of thyroid tumours, he believed that if the toxins be withdrawn early the hyperplasia will disappear, and that the earliest stage of hyperplasia is associated with a diminution in size of the thyroid rather than an increase. A thyroid cycle might take place from normal gland to hyperplasia, and from hyperplasia to a colloid gland. During the process of excessive colloid formation the thyroid would increase in size, and the portion that had been in the highest degree of hyperplasia would have a greater deposit of colloid; this would lead to the formation of so-called adenoma. During this involution degenerative change is liable to take place as in any other gland and show itself in the formation of single or multiple cysts. The involution may go on to fibrosis. Examination of the literature reveals exactly the same cycle of changes in the glands of cretins as occurs in adult thyroids, only the active hyperplasia is rarely seen. In them the course of involution and degeneration is complete in two or three years.

Mr. S. G. SHATTOCK, in a communication on the Microscopic Structure of Urate Calculi, remarked that the microscopic structure of such calculi presented considerably less variety than those of uric acid. The study was carried out by means of transparent sections made after the petrological method. The nucleus, he found, invariably consisted of a conglomerate of spherules, doubtless held together by vesical mucus. Upon such an aggregate, the body was formed by a regular "growth" of further spherules, as distinguished from the deposition of such as are independently formed in the urine. That these "grew" upon the surface was shown by the fact that they were hemispheres or lesser sectors only—i.e., the centre of the sphere was located on what was at the time the exterior of the calculus, its subsequent growth taking place only on the distal side; the varying proximity of these centres determined the size of the sectors produced in connexion with them. From the coalescence of the laterally opposed sectors a continuous lamina resulted. The spheres were resolvable into radiating collections of minute rod-like crystals, which Mr. Shattock named bacilliform. In addition to this method a laminar formation might arise directly from the radial deposition of bacilliform crystals, radial, i.e., to the centre of the calculus as a whole, as distinguished from the centres of individual spheres. The general uniformity of structure was invariably interrupted by the zonular deposition of irregular aggregates of spheres like those composing the nucleus, or of bacilliform crystals without order, or of both intermingled. The various elements might all be matched in urinary sediments, though bacilliform crystals in a discrete form were very rare in sedimentary urate. The spherules of calcium urate encountered in calculi corresponded with those sometimes met with in urinary sediments, and were of comparatively large size, and constructed of coarse crystals with sharp projecting ends. All urinary calculi contained a delicate organic matrix which was revealed when the salts were dissolved away. Mr. Shattock had shown its presence even in an Egyptian calculus of uric acid at least 7000 years old, as well as in intestinal calculi. In 1904 he had independently demonstrated the same matrix in uric acid sediment—an observation previously made by Moritz. That the material in question was mucin appeared from its presence in the urate spherules deposited in normal urine after this had been passed, and in which no other proteid was present. In the case of calculi or of sediment, if albumin was reaching the urine from an inflamed mucosa or through the kidney, albumin might be admixed with the mucin.

OTOLOGICAL SECTION.

Introductory Address.—Exhibition of Case and Specimens.

A MEETING of this section was held on Oct. 18th, Dr. J. DUNDAS GRANT, the President, being in the chair.

The PRESIDENT gave a short introductory address. Infection of the brain through the ear and the various sinuses had, he said, resulted in the aural surgeon extending his operations into the cerebrum and cerebellum. While still preserving the attitude of conservatism combined with practicability, the worker in that special domain should gladly avail himself of the aid afforded by the mathematician, the physicist, and the physiologist, being careful to preserve the sense of proportion. The subjects of artificial aids to hearing and the pathology and treatment of deaf-mutism had received the special attention of the section, and the President expressed the opinion that, in the light of newer pathological knowledge, tympanic operations might well be resuscitated. Reliance should not be placed upon any one test or method of investigation, especially in labyrinthine conditions, where the issues were often those of life and death.

Dr. DAN MCKENZIE exhibited a case of Lateral Sinus Thrombosis and Meningitis, ending in recovery. The patient was a man aged 25, who had had middle-ear suppuration for 14 years. There was pain in and around the ear, vertigo, rigors, and a temperature varying from 100° to 104° F. Nystagmus and stiffness of neck were present. The mastoid operation was done, and it disclosed a fissure in the posterior meatal wall leading into a large cavity filled with cholesteatoma. Many delicate structures were found exposed, and pus was welling up from the bulb. As there was a continuance of pyrexia and rigors, the jugular vein was tied and resected in the neck two days later, and the lateral sinus groove opened inwards towards the bulb. The meningeal symptoms persisting, the labyrinth was opened five days later, and a wire drain inserted in the internal auditory meatus. This drain was removed in a day or two, as it did not act well. Recurrence of the meningeal symptoms led to lumbar puncture being performed on two occasions, and improvement, proceeding to recovery, dated from those procedures.—In the discussion on the case several members counselled tying the jugular in a similar case at the time of the operation, instead of waiting for a day or two.

Mr. RICHARD LAKE showed the Brain and Mastoid of a fatal case of Left Otorrhœa with right temporo-sphenoidal

abscess there had been an offensive discharge from the left ear for many years. The patient suffered from giddiness and constipation, and his temperature rose to 103° F. and his pulse to 68. Though regularly syringed with a solution of lysol the discharge from the left ear was free and offensive. One or two stools passed were characteristic of enteric fever, and there was muttering delirium with subsultus tendinum and carphology. Widal reaction was negative. Radical mastoid operation on the left side revealed a patch of caries in the region of the superior horizontal canal, and this was scraped. There was pus in the labyrinth, but no stapes could be seen. Although the symptoms pointed to pus in the cerebrum, exploration disclosed none. Considerable serous fluid escaped near the fissure of Rolando. Examination of the cerebrospinal fluid showed only moderate lymphocytosis; there were no pus cells and but few epithelial cells. A complete post-mortem examination disclosed a temporo-sphenoidal abscess on the right side, and a large non-infective infarct in the right lung.

Mr. P. MACLEOD YEARSLEY exhibited a light and convenient apparatus for inflating the ear with heated air, which is a simplified form of the device of Dr. Andrew Wylie. It contains a small cautery burner, and a lining of asbestos prevents over-heating.

Dr. H. J. DAVIS showed a horse-bean which he removed from the middle ear of a boy aged 7 during the performance of a radical mastoid operation, the boy having suffered from prolonged otorrhœa. Facial paralysis resulted. The sequestra removed with the bean contained the outer wall of the canal of the facial nerve.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—The first meeting of the session of this society was held on Oct. 18th.—Dr. Joseph Dobson, the President, who was in the chair, gave an address on Gleanings from General Practice. He dwelt on the changes that had taken place during the past 30 years in the treatment of illness, saying that there is at the present day a tendency to ignore the wealth of therapeutic knowledge which has been stored up by generations of great men. He ventured to say that there were very few men who had been in practice a long time who had not a great faith in the value of drugs judiciously administered, for the relief of symptoms and the discomforts of illness. He also expressed the view that often operative measures were resorted to, perhaps a little too readily. Dr. Dobson voiced his doubts as to the wisdom of including so many scientific subjects in the preliminary examinations of the medical student, thinking that the time so taken up would be more profitably spent in hospital or other practice.—Dr. T. Churton read a paper with the title, "In a case of suspected malingering, is a variable patellar clonus decisive evidence of (traumatic) neurasthenia or, possibly, of an organic lesion?"—Dr. F. W. Eurich, Dr. W. H. M. Telling, Dr. H. H. Greenwood, and Dr. G W. Watson discussed the various points of the paper, and Dr. Churton replied.—Professor J. B. Hellier showed a specimen of Myoma removed by myomectomy from a young woman of 24, five months married; not pregnant. The case illustrated what can be done by conservative surgery. Both ovaries and tubes and a normal uterus were left, and the patient made an excellent recovery.—Mr. H. Littlewood and Dr. M. J. Stewart showed a specimen of Typical Colloid Carcinoma of the Urinary Bladder.—Dr. Stewart showed a specimen of Liver exhibiting Carcinomatous Deposits of Two Types: (*a*) deposits identical in structure with that of the primary growth which was in the stomach, and (*b*) dark red deposits exactly simulating chorion-epithelioma as far as the naked-eye characters were concerned. Microscopically these deposits were found to consist of blood clot with a narrow zone of tumour tissue at the periphery.—Mr. H. Collinson showed a patient who had suffered from Severe Intraperitoneal Hæmorrhage as the result of a chronic gastric ulcer. She began with sudden epigastric pain and vomiting with collapse. All ill-defined tumour was present beneath the right costal margin. At operation a chronic ulcer on the posterior surface of the stomach and eroding the pancreas was found, with a large collection of blood clot in the lesser sac. Posterior gastro-enterostomy was performed. Recovery.—Dr. Telling and Mr. Collinson exhibited a Pancreas with Advanced Fibrosis and containing numerous calculi. The patient, a middle-aged woman, had had no symptoms beyond chronic diarrhœa for 20 years, and loss of weight for 12 months. The stools contained much fat and undigested proteid. A sudden obstructive jaundice led to operation, and Mr. Collinson found a stony hard pancreas with great dilatation of the common duct. Death occurred from chronic suppuration in the lungs. Microscopical examination of the gland showed that practically the only healthy portions were the islets of Langerhans, a point of interest in that at no time was there any sugar in the urine.—Mr. L. R. Braithwaite presented a patient from whom nearly half the lower jaw had been removed for rapidly growing sarcoma.—Mr. Littlewood exhibited a patient who had suffered from malignant disease of the hepatic flexure producing an intussusception. He had removed the cæcum, ascending colon, and part of the transverse colon three weeks before, implanting the ileum into the transverse colon. Specimen also shown.—Specimens and cases were also shown by Dr. D. G. Greenfield, Mr. J. F. Dobson, Dr. C. Oldfield, Dr. R. A. Veale, Dr. A. G. Barrs, Dr. A. L. Whitehead, Mr. G. Constable Hayes, and Dr. E. W. Bain.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Oct. 15th, Dr. J. W. Grange, the President, being in the chair.—An address on Some of the Rarer Forms of Intestinal Affections was given by Dr. T. Kennedy Dalziel, of Glasgow, who first of all dealt with a very rare disease of the intestine, which he termed chronic interstitial enteritis. In this condition the walls of the intestine showed chronic inflammatory changes, the bowel lost its normal elasticity, and became more or less brittle. No definite organisms had been discovered on bacteriological examination. A portion of, or the whole of, the intestinal tract might be affected; in the latter case with fatal termination. The main characteristic of the clinical picture consisted in attacks of very violent abdominal pain, during the intervals of which the patient might appear quite comfortable and happy. Although the disease might simulate intestinal obstruction, the bowels could always be made to act, even though with difficulty. The treatment consisted in laparotomy and excision of the portion of the bowel affected. Should this portion be not very extensive recovery will ensue. A disease identical with this condition had been described as occurring in the lower animals, and on bacteriological examination a bacillus resembling the tubercle bacillus, but shorter, had been discovered. Dr. Dalziel then discussed some of the conditions produced by acquired and congenital abdominal adhesions. His remarks were illustrated by the exhibition of very valuable specimens.—Mr. H. Lund proposed, and Mr. A. H. Burgess seconded, a vote of thanks to Dr. Dalziel for his interesting and valuable communication.

HARVEIAN SOCIETY OF LONDON.—A clinical meeting of this society was held at the Hospital for Epilepsy and Paralysis, Maida Vale, W., on Oct. 17th. The following cases were shown:—Dr. Leonard G. Guthrie: (1) Primary Lateral Sclerosis; (2) Residual Chorea.—Dr. Maurice F. Squire: (1) Carcinoma of Breast treated by X Rays; (2) Keratodermia Blennorrhagica.—Dr. S. L. Hay (for Dr. Wilfred Harris): (1) Notes on a case of Spinal Tumour; (2) A case of Glossal Tic.—Dr. G. de B. Turtle (for Dr. Graham Little): (1) Erythema Multiforme in a boy; (2) Framboesoid Syphilide in a man.—The President took the chair at 9 o'clock, and the cases were discussed by Dr. Guthrie, Dr. F. Langmead, Dr. Turtle, Dr. Squire, Mr. Bourne, Dr. Travers R. M. Smith, Dr. Hay, and the President.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).—The following entrance scholarships have been awarded:—Anatomy and Physiology, value £50, H. Rivers Pollock, Trinity College, Cambridge; General and Clinical Pathology and Pharmacology, value £50, E. Watson Williams, Caius College, Cambridge. Epsom Scholar at the Hospital: R. H. Leigh.—A course of four special lectures in physiology on the Mammalian Heart will be given by Dr. F. S. Locke in the Physiological Laboratory, King's College, London, on Monday afternoons, Nov. 11th, 18th, and 25th, and Dec. 2nd, at 4.30 P.M. These lectures are free to all medical students in London medical schools, to all internal students of the University of London, and to medical men on presentation of their cards.

Reviews and Notices of Books.

Medical Benefit in Germany and Denmark. By I. G. GIBBON, D.Sc. London: P. S. King and Son. 1912. Pp. 296. Price 6s. net.

Dr. I. G. Gibbon's study of the experiences of Germany and Denmark, two countries where organised administration of medical benefit to the public under the insurance system has been in force for some years, will prove of great interest to the medical profession, and also to the public, at the present moment. The book throughout shows what we have striven to inculcate in article after article in THE LANCET for many years—namely, that the problems which are clustering so densely round medical service are part of the general issues of modern civilisation; they are, as Dr. Gibbon says, "closely connected with the prevailing tendency which runs in the direction of incorporating individual action in that of the organised group;" while, to take a point of view more strikingly professional, they illustrate numerous modern relations in which the medical profession is placed in regard to the public. Therefore, their proper solution demands that there should be sympathetic comprehension both of general motives and specific conduct between the two parties. No such comprehension prevails as yet, and the lack of it has been responsible, firstly, for the introduction of a national scheme of insurance against invalidity without consultation of those who have to take the risks of the scheme upon themselves, and, secondly, for a great deal of the bitter comment with which the firm attitude of the medical profession in this country against unfair treatment has been received.

There has been in Germany a comprehensive scheme of compulsory insurance against sickness for a quarter of a century, and references have been made in our columns at times to the Aerztevereinsbund, and to the fighting association, the Leipziger Verband, which now for several years has joined hands with the former society. There has also been extant in Denmark for over 20 years a large scheme of voluntary insurance against sickness. In both countries there has been, probably, sufficient time to allow the details of organisation to settle down into a working plan, wherein definite proceedings should yield definite results, so that adequate material is supplied, by looking at the work done in Germany and Denmark, for drawing conclusions which may be used for the guidance of other countries. Dr. Gibbon has set out in his highly interesting book the principal facts respecting the administration of medical benefits under the insurance law of the two countries with a view to extracting the common teaching to be derived. Curative treatment, that is the provision of medical service, medical and surgical requirements, and institutional treatment, is mainly considered; the broader question of preventive treatment is left on one side, and the limitation of scope, thus indicated, is perfectly sensible. The grounds on which medical remuneration should be fixed make up quite a large enough subject for separate investigation.

The lessons to be drawn from this highly interesting book depend to a great extent upon whether the conclusions which are arrived at in the various chapters dealing with such subjects as "choice of the medical practitioner," "remuneration," "control of medical service," "medical and surgical requirements," and "institutional benefit" are accepted either as proven in regard to Germany and Denmark, or as valuable in respect of this country. They are exceedingly clear cut, and we cannot recommend a better procedure for members of the medical profession, who are unable to make up their minds what course they are to pursue in the present delicate position of professional relations towards the public, than the close perusal of this volume. The experience of the working of an insurance scheme for the provision of medical benefits, compulsory in one country and voluntary in the other, as recorded by Dr. Gibbon, bears out many of the essential demands that we, from time to time, have made in these columns when writing on the National Insurance Act. The gist of some of the conclusions follows directly upon the maintenance of views which we have always held towards contract service, and which we have regularly placed before our readers. One of the most interesting indications for a correct view of affairs may be set out in Dr. Gibbon's own words. The extract is from a summary, or survey, in the preface of all the conclusions, which are scattered about the book as a termination to the treatment of the different headings:—

"Agreements as regards medical service are best made between the societies, or a federation of societies, and the doctors as an organised corporate body. The doctors, in such a system, undertake medical service as a corporate body. More efficient service is likely thus to be obtained and the control of medical service is made easier."

The medical profession in this country will value the practical testimony herein contained to the justice of their stand for fair treatment, and on this basis they would not be prevented from negotiating as to the future course to be pursued in the struggle that seems to be impending.

Among other conclusions, freedom of choice of doctor is shown to be a necessary accompaniment of national insurance, while it is also made clear that the details of medical service, and the control of the members of any local medical branch, should be left in the hands of an organisation of medical practitioners, relinquishing to the various associations or bodies of subscribers the questions of management and policy so long as the subscribers are associated otherwise with competent medical advisers. "Payment for medical service," says the author in his prefatory summary, "should be made in the form of capitation payments by the societies to the organised association of doctors, to be distributed by that association among the several doctors according to services rendered," a simplicity of programme which is very striking at a time when the medical profession in this country has before it five different schemes of remuneration fathered by the Government, two presented by the British Medical Association, two others published by the Association—and this list could be extended. This is a book to be read at once, and critically.

Manual of Human Osteology. By A. FRANCIS DIXON, M.B., Sc.D., University Professor of Anatomy and Chirurgery, Trinity College, Dublin. London: Henry Frowde and Hodder and Stoughton. 1912. Pp. 316; illustrated with 178 figures, many in colours. Price 10s. 6d. net.

IN this the latest work on human osteology Professor Dixon has given an admirably clear and accurate description of all the individual bones that compose the skeleton of man, and, moreover, he has provided excellent illustrations drawn especially for this volume by Mr. J. T. Murray. There is, therefore, every guarantee both for the accuracy of the text and the faithfulness of the illustrations. The nomenclature agreed to by the Basle Committee has been given first place throughout, and is uniformly distinguished by a bolder type, but it has not been used to the total exclusion of the older and more familiar terms.

It is a tribute to Professor Dixon's own excellent original work when we ask whether the treatise could not have been made in parts a little more interesting. Unfortunately for

the medical student, osteology is likely to be a dull subject of study, and the fault lies not wholly with the student, nor with the bones, but sometimes with the manner in which the subject is presented by the descriptive anatomist. That every student who reads this book attentively will obtain a most accurate knowledge of the individual bones is quite obvious, and yet it may be possible that, having closed it, and successfully passed his examination on its contents, his living knowledge of the human skeleton may not abide with him. It would almost seem that to ensure a student's getting any lasting knowledge of the subject it is necessary to depart from the rigid description of bones as unliving objects, and to add some details more practical, more living, and far more interesting than an accurate account of surfaces and borders.

Professor Dixon may reply that with deliberation he wrote on osteology, pure and simple. Well, we are making no plea for adding attractive but useless garnishings to useful yet dull facts in order to make them more readily palatable; for it is more nearly true to say of osteology that the interesting is the useful. Far more might be told, even in a manual of osteology intended for the use of students, of the sex and age changes of bones, of the modifications depending on functions, and of the anomalies and variations that are commonly met with. The closing and obliteration of the cranial sutures and their influence on head form, the wonderful bevelling of the skull bones, and the normal cranial asymmetry should all receive attention, for a knowledge of these things must be admitted to be quite as useful as the most profound familiarity with the surfaces and borders of a carpal bone. The moulding of bones by surrounding structures and the relation of their own structure to stress and strain are things fuller treatment of which would have been welcome, in view of the original work done by Professor Dixon on the subject. Many places where we should have welcomed further exposition from Professor Dixon occur during a perusal of this work, and a plea for the expansion of any future edition is made, not only in order that the lump of rigid descriptive osteology may be leavened, but because the knowledge of these things is real living knowledge.

Anæsthetics and their Administration: a Text-book for Medical and Dental Practitioners and Students. By Sir FREDERIC W. HEWITT, M.V.O., M.A., M.D. Cantab., Anæsthetist to His Majesty the King, Physician Anæsthetist to St. George's Hospital. Fourth edition, prepared with the assistance of HENRY ROBINSON, M.A., M.D., B.C. Cantab., Anæsthetist to the Samaritan Hospital and to the Cancer Hospital. London: Macmillan and Co. 1912. Pp. 676. Price 15*s.* net.

A FEW years ago there were several British text-books in various specialties which by common consent stood head and shoulders above their competitors. Sir William Broadbent's book on the heart and Sir Henry Morris's on diseases of the kidney may serve as examples, though many others could be instanced. Of late, however, there are few monographs which enjoy such exceptional prestige: the general level of excellence is higher than it used to be, and it is more difficult for a special text-book to distance competition. In the literature of anæsthesia Sir Frederic Hewitt's well-known manual has held a place quite indisputable. There are several really good British books on the subject; but their scope is more limited and their authority less accepted. During the last five or six years research and progress in anæsthetics have been so rapid that text-books have quickly become obsolescent; and this one has been no exception to the rule. It is therefore the more satisfactory to see a new edition, fully up-to-date, and entirely worthy of the high reputation of former editions.

A comparison of the third with this fourth edition serves to show the extensive revision which has been necessary. Three absolutely new chapters are included, and several of the old ones are recast out of all recognition. One new chapter deals with the administration of morphine and other alkaloids in conjunction with anæsthetics—this subject was briefly dealt with in the former editions, but has now been expanded by the inclusion of much recent work. The other new chapters deal with local and regional anæsthesia, and with the medico-legal aspects of anæsthesia. The last section is contributed by Mr. D. Cotes-Preedy, and is an excellent summary of its subject. The chapter on local and spinal anæsthesia is quite novel, and is of interest accordingly. Into the actual minutiæ of technique it enters less deeply than do the chapters on ether, chloroform, nitrous oxide, and other general anæsthetics. But the broad principles are faithfully and correctly given; and the care which has been expended on the sections dealing with the physical and physiological properties of the different drugs in use renders the whole account very valuable. The indications for and against spinal anæsthesia are judiciously stated, though they may not please the extremists of one type or the other.

Another chapter which has been wholly remodelled is that on the administration of ether. This, as it now stands, is an excellent account of modern practice. For the "open ether" method, originated by Prince and Fergusson in America, the authors have invented the new word "perhalation." While admitting that the pads used to surround and close in the mask entail a small amount of rebreathing, and that in strictness this renders the word "open" itself open to criticism, we still think that it would be better to keep to the phrase which has now passed into common usage instead of coining one which stands little chance of adoption. However, the manner of application of the open ether method and the description of it are alike sound. Intravenous ether administration, Crile's nasal tubes for ether, and Elsberg's intratracheal insufflation method are all sufficiently dealt with; and the handling of the *pros* and *cons* of these recent introductions is discreet. The frequent succession of new anæsthetics and new methods of giving old ones complicates very greatly that most important of the anæsthetist's duties, the selection of the proper anæsthetic for the individual case. In the chapters devoted to this branch of the subject we are glad to note that spinal and local as well as general anæsthesia are duly considered. In the present state of knowledge a certain amount of reserve as to the exact limitations of and indications for the new methods is prudent and desirable; and the same is true of such unsolved problems as that of the status lymphaticus, and that of "delayed chloroform poisoning," for which the authors adopt the preferable term of post-anæsthetic toxæmia. In dealing with the conflicting theories of shock the prudent attitude is again in evidence, but here a more decided line might with advantage have been taken.

The references to literature have always been a strong point in this text-book, and they remain so. In every chapter the work of recent years has been incorporated with discrimination, and references have been profusely added; in particular, more American and continental authors are quoted than was the case in former editions. The general index and the index of authors quoted have consequently greatly expanded, but notwithstanding the inclusion of so much new material the volume is only about 40 pages larger than before, a result attained by sacrificing sections which had become of minor importance

or none at all. We congratulate Sir Frederic Hewitt and his collaborator, Dr. Henry Robinson, on their work; the position of the previous editions will be maintained or enhanced and an international reputation established by the new issue.

Technik der Thoraxchirurgie. Von Dr. J. SAUERBRUCH, O.Ö. Professor, Direktor der Chirurg. Universitätsklinik, Zürich; und Dr. E. D. SCHUMACHER, Privat-dozent und Assistent an der Chirurg. Universitätsklinik, Zürich. Mit 55 Textfiguren und 18 mehrfarbigen Tafeln. Berlin: Julius Springer. Pp. 97. Price 24 marks.

THE surgery of the thorax has lagged far behind the surgery of the abdomen, and it is less advanced even than the surgery of the contents of the skull. One of the foremost exponents of thoracic surgery is Dr. Sauerbruch, and that this book is by him is sufficient in itself to give it authority. The introduction of various methods of overcoming the difficulties of keeping up the expansion of the lungs while the thorax is opened has been the main factor in the progress of thoracic surgery. The chief forms of both the "over-pressure" and "under-pressure" methods are here described. Dr. Sauerbruch devised the under-pressure room, and he has invented a new form of it which is easily carried from one place to another and is readily put together, and it appears to be a decided improvement on the earlier pattern. A section is devoted to the general technique of making an opening through the chest wall, and then the surgery of the lung and of the heart is described. For exposing the heart the authors prefer the intercostal route, the incision being made in the fourth intercostal space, and the ribs are held apart by a Mikulicz rib retractor. In this way sufficient room is obtained. The work is illustrated by some excellent coloured plates after originals prepared by Dr. Schumacher.

Soziale Pathologie. By Dr. ALFRED GROTJAHN. Berlin: August Hirschwald. 1912. Pp. 691. Price 18 marks.

UNDER the term "Social Pathologie" Dr. Grotjahn considers the etiology, mode of spread, and certain characteristics of those diseases and morbid conditions which are dependent directly and indirectly on social influences. The information afforded here can, it is true, be found scattered through text-books and proceedings of medical societies, but it is convenient to have such material collected into one volume, so that those practitioners who are more particularly concerned with matters dealing with public health can have a source of ready reference to points that are constantly coming before them.

The "special part" of the book deals with the various diseases which have a distinctly social bearing, owing either to their infectious nature or to their dependence upon social conditions of the present time. Naturally the more common of the infectious fevers, both in men and in animals, receive a considerable amount of attention, and much useful information that is not found in ordinary medical textbooks is given. In the section on tuberculosis stress is laid upon the importance of proper supervision of the homes of the working-classes and of the buildings in which the various manufactures are carried on. In the second part of the work various problems are discussed, which illustrate the relationship that exists between the social life followed by the different classes of the community and disease. Degeneracy and its effects are fully considered, and an interesting comparison is made between the physical and mental powers of those individuals dwelling respectively in large towns or cities and in the country.

Dr. Grotjahn is of opinion that the methods hitherto employed for the study of degeneracy, which have been especially based on moral and historical grounds, have not been productive of sound knowledge. He believes that in the future more satisfactory results would accrue if more stress was laid on pathological findings, on closer investigation of family history, on anthropometrical investigations, and on statistics in reference to population, and to congenital and other defects. The subject of degeneracy has certainly received more attention during recent years than formerly, and further investigations based on Dr. Grotjahn's suggestions would probably yield information of considerable value. Especially would this be the case if the inquiry could be made an international one, so that racial peculiarities, the influence of climate, and the distinguishing social environment of various nationalities could be taken into account.

The work as a whole will appeal chiefly to those members of the profession who are interested in social problems: it will hardly be of any great value to those exclusively engaged in the ordinary practice of their profession.

Die Syphilis im Lichte der modernen Forschung, mit besonderer Berücksichtigung ihres Einflusses auf Geburtshülfe und Gynäkologie. Von Dr. FRANK WEBER, Assistent an der Kgl. Univ. Frauenklinik und Privat-dozent für Geburtshülfe und Gynäkologie an der Universität in München. Mit 8 Abbildungen im Text. Berlin: S. Karger. 1911. Pp. 128. Price 4 marks.

THIS is a very readable account of the present state of our knowledge of syphilis, written with special reference to midwifery and gynæcology. It commences with a short sketch of the history of the subject, in which the earliest knowledge of the disease is described, and the author traces how it was gradually found that "the venereal disease," which had been thought to be a single malady, was really two, or even more, diseases. The discovery of the spirochæta pallida is described, as well as the experiments on the transference of the disease to some of the lower animals, experiments which have been so fruitful of beneficial results in the advancement of our knowledge. A good account is given of the methods to be employed in the examination of the spirochæta, and the Wassermann reaction is described and its theory is explained. The most important part of the book, however, is that dealing with the relation of syphilis to midwifery and gynæcology. The question of congenital syphilis is discussed, and the forms of involvement of the various tissues of the fœtus are described. The gynæcological aspect of syphilis is more briefly treated. Lastly, a short account is given of the history of the treatment of the disease.

The Home Nurse's Handbook of Practical Nursing. By CHARLOTTE A. AIKENS, Formerly Director of Sibley Memorial Hospital, Washington, and Superintendent of Columbia Hospital, Pittsburgh, and of the Iowa Methodist Hospital, Des Moines. Illustrated. London and Philadelphia: W. B. Saunders Company. 1912. Pp. 276. Price 6*s.* 6*d.* net.

IT is lamentable that in many ailments, apparently trifling in the early stages, a fatal result may ensue through ignorance and lack of proper home nursing. The most ardent love, the most untiring efforts, and the best of intentions in the unskilled will not undo the results of ignorance. The work under review has been compiled for use in home-nursing classes in Young Women's Christian Associations, in schools for girls and young women, and as a working textbook for mothers, practical nurses, trained attendants, and for all who have the responsibility of the home care of the sick. It is the result of the writer's long experience in hospital work, where she has seen the results of maternal ignorance of the laws of health and sanitary living, and of neglect of proper management when signs of illness manifest themselves in the home circle.

Special attention is paid to the care of babies and maternity nursing. It is now being recognised that an educational scheme in which infant and child hygiene is entirely left out, leaving the young mother to learn wholly by experiment and at the risk of the baby's life how to care for her infant, must fail to produce the best results to the child, the home, or the nation. The manual under review assumes some previous instruction in the elements of physiology and general hygiene, as well as that the theoretical instruction given will be accompanied with practical demonstrations. The studies have been so arranged as to be easily grasped by the average girl or woman who is able to master sixth or seventh grade school work. Suitable practical demonstrations are suggested at the beginning of each chapter. The instruction should be given preferably by a physician or trained nurse, and the resourceful instructor will be able to make many additions to the list of methods which may profitably be demonstrated before a class.

The book can be commended. The arrangement followed and the descriptions are concise and clear. The illustrations are good and carefully selected.

Text-book of Ophthalmology in the Form of Clinical Lectures. By Dr. PAUL ROEMER, Professor of Ophthalmology at Greifswald. Translated by Dr. MATTHIAS LANCKTON FOSTER, Member of the American Ophthalmological Society. With 186 illustrations in the text and 13 coloured plates. Volume I. London: Rebman, Limited. 1912. Pp. 275. Price 10*s.* 6*d.* net.

WE are glad to receive the first volume of a translation of Roemer's Text-book of Ophthalmology. In reviewing the German edition we had occasion to point out some of the disadvantages of a text-book written in the form of clinical lectures, but this work contains such a wealth of excellent material that it was well worth translating. Dr. Foster has carried out his task thus far—about one-third of the original book—in an admirable manner. The translation is accurate and in good English, even distinctive Americanisms being few and far between. Moreover, the publishers have presented the work in first-class style.

Further perusal of Professor Roemer's book increases our opinion of its value. In the portion now before us we find all the essentials of sound teaching on diseases of the conjunctiva, cornea, iris, and lens, and many illuminating remarks and suggestions which are novel or original. As was to be expected, diagnosis and treatment on the lines of the theory of immunity receive special attention. Professor Roemer is a well-known pupil and disciple of Ehrlich, and his researches have obtained the recognition that their originality and accuracy fully warrant. In such a case we are only too familiar with the enthusiasm which outruns discretion, and the most striking feature in the present instance is the thoroughly sane and sound judgment displayed. We know of no better guide in these matters, which loom so large in the therapy of the day. The following opinion on tuberculin treatment may be aptly quoted in illustration:—

"My own judgment concerning the therapeutic value of tuberculin in the treatment of ocular tuberculosis is that the employment of a specific remedy in these tuberculous diseases is a logical consequence of the study of immunity, and that the use of tuberculin in those diseases of the eye which we have hitherto been obliged to leave to the doubtful efficiency of other remedies, or, more correctly, to spontaneous recovery, is beyond doubt an advance. I am convinced that this sort of active immunisation promotes recovery from ocular tuberculosis in many cases. But I am also convinced that the therapeutic capacity of tuberculin in the treatment of ocular tuberculosis has been, and still is, much overestimated."

Ophthalmic surgeons have some difficulty in keeping abreast of those researches of bacteriologists which have a bearing on their special study. To them Professor Roemer's explanation of Wassermann's reaction, complicated though it be, will prove very welcome, and his views of the importance of the reaction in ophthalmology will be read with confidence.

The chapter on diseases of the iris is the least satisfactory, but it would be ungracious to cavil when so much is admirable. We reiterate our opinion that the work is not well suited to the requirements of the ordinary medical student—at any rate, the English student—but we warmly recommend every ophthalmologist to read the book.

Nouveau Traité de Pathologie Générale. In four volumes. Publié par CH. BOUCHARD, Professeur Honoraire de Pathologie Générale à la Faculté de Médecine de Paris; et G. H. ROGER, Professeur de Pathologie Expérimentale à la Faculté de Médecine de Paris. Paris: Masson et Cie. 1912. Tome I. Pp. 909. Price 88 francs the four volumes.

THIS new issue of a treatise on general pathology, edited by the veteran Bouchard and the still active Roger, with over 40 collaborators, is an event of importance in the medical world. Pathology is one of the most progressive of the medical sciences, and in some respects "general pathology" has always had an attraction for French investigators. To us there does not seem a direct system of classification in the presentation of the subject matter of this volume on general pathology.

We can best illustrate what we mean by citing the subjects discussed, where "anaphylaxie"—one of the latest achievements of science—jostles such threadbare subjects as the pathological effects of physical and chemical agents. In France there is an inveterate tendency to conserve—perhaps it is right, but it is sometimes inconvenient. H. Roger gives an Introduction to General Pathology, which extends to over 100 pages. Along with P. J. Cadiot, Roger also contributes a chapter on the Comparative Pathology of Man and Animals, and later from his own pen is a short article on Etiology and Pathology. P. Vuillemin deals with Vegetable Pathology (about 40 pages). Teratology and General Pathology of the Embryo are treated in nearly 100 pages by the late Mathias Duval and P. Malon, while P. Le Gendre discourses on Heredity, and does not seem to find more than 100 pages too much. Ch. Achard devotes another 100 pages to Immunity. Paul Courmont expounds Anaphylaxy in nearly another 100 pages. Without mentioning the length of the succeeding articles it will be sufficient to state that F. Lejars deals with Mechanical Agents, and A. Joubert with the Influence of Professional Work—he really means industrial work—on the organism. Then suddenly we come on Variations of External Pressure, by J. P. Langlois, followed by the Pathological Effects of Physical Agents, by J. Bergonié, and Light—in its pathological aspects—by Th. Nogier. P. Le Noir deals with Chemical Agents and Caustics, and it would be hard to find, even amongst "caustics," anything comparable to the dire results described as "Action Pathogène du Radium," and set forth in the preceding article by J. Bergonié.

A review of such a work, of which only the first volume is before us, is perhaps premature, but we must point out that enough evidence has already been furnished to show that there is too much of the general and discursive in the scheme to make the complete treatise as valuable as it might be. There are remarkably few illustrations in the volume. The actions of radium are very fully described, and illustrated by a few woodcuts. There is a list of contents but no index, a deficiency of great importance to the would-be reader. The treatment of each

subject is extensive, but some of the chapters might with advantage have been condensed. This, perhaps, is rather difficult with so many collaborators.

In spite of its defects the work is one that should be in every reference medical library, for it represents the work of the best French writers and investigators in general pathological subjects.

Lehrbuch der Hyperämiebehandlung akuter Chirurgischer Infektionen. Theorie und Praxis für Aerzte und Chirurgen. Von Dr. Med. EUGEN JOSEPH, Privat-dozent der Chirurgie an der Friedrich-Wilhelms-Universität, Berlin, Assistant der Kgl. Chirurgischen Universitätsklinik. Mit einem Vorwort von Professor AUGUST BIER. 16 Tafeln und 14 Abbildungen und Kurven im Text. Leipzig: Dr. Werner Klinkhardt. Pp. 283. Price, paper, 7 marks; bound, 8 marks.

THE value of passive hyperæmia in many acute local infections is not yet fully appreciated in this country. Although Professor Bier's work has appeared in English, many surgeons have little knowledge of the great efficacy of this method of treatment, and there is need for insisting on the importance of this therapeutical weapon. The method must be correctly employed, and there was room for other works on the subject for the instruction of the practitioner. Dr. Joseph has published a useful book, giving full directions for the application of the method, both for the use of the rubber bandage and of the cups. The general indications and contra-indications of the employment of hyperæmia are described, and then is given its application to various conditions, such as boils and carbuncles, lymphangitis and erysipelas, mastitis, suppurating joints, gonorrhœal rheumatism, osteomyelitis, and infected wounds.

This work will prove of great value to those surgeons who have not employed the congestion method of treatment. It will point out the cases most suitable, and will indicate how the hyperæmia should be used; but the surgeon will after a while formulate rules for his practice of the method founded on his own experience, and he will find its usefulness increase with his knowledge. A bibliography gives the titles of the chief papers on the subject.

La Maladie du Sommeil au Katanga. By F. O. STOHR, M.B., B.Ch. Oxon. With 15 illustrations and 9 maps and charts. London: Constable and Co., Limited. 1912. Pp. 83. Price, in paper covers, 4*s.* net.

Dr. Stohr published in 1910 a small brochure on sleeping sickness in the Katanga country, and on this we commented in THE LANCET of July 2nd of that year. He has now prepared a larger work on the same subject, written this time in French, setting out the results of his two years' work in Southern Katanga, during which he endeavoured to ascertain the precise distribution of the disease in that region.

The author first describes the geography of the Katanga, and gives particulars of the customs of the natives. He also describes the trades of the locality and the trade routes. He believes that trade has in a large measure aided the spread of sleeping sickness in the Katanga. Though official rules and regulations have been issued by the Belgian authorities for the guidance of prospectors and rubber collectors, these are commonly ignored, and most of the traders pay little attention to them. The origin and progress of the disease in this part of Central Africa are set out by Dr. Stohr, as also the various methods which have been used in diagnosing sleeping sickness; he himself during his survey of the country employed exclusively the method of gland palpation as an aid to diagnosis. A considerable portion of the volume is devoted to a description of the rivers and their tributaries flowing through the Katanga, and in setting out the results of his search for glossina palpalis and sleeping sickness cases along the banks of these streams.

As regards treatment, it appears that the natives stand in great fear of detention in the hospitals or lazarets which have been provided for their accommodation at certain places. For this reason Dr. Stohr looks upon this hospital provision as of little use, though costing a good deal of money, and he is convinced that a sympathetic medical officer travelling through the affected districts would soon have many patients attending as often as might be required to receive injections of atoxyl or other treatment. At present, however, the natives flee from medical men for fear of being taken by their orders to the lazarets. It seems hopeless, in Dr. Stohr's opinion, to expect that the spread of sleeping sickness in the Katanga will be stopped by preventing the people from moving about from place to place. When the whole region has been properly mapped out and the local conditions fully ascertained, it will be possible then to decide in what cases it is desirable to move the inhabitants from fly-infested to fly-free areas. There are sometimes difficulties associated with removal of the population from old to new locations, as, for example, where the people depend upon fishing for their subsistence. Dr. Stohr's work is supplemented by a copy of the Ordonnance of 1910 issued by the Belgian authorities, and its provisions are freely discussed and criticised. A number of excellent photographs assist the reader to a clearer understanding of the conditions which exist in the Katanga, and several useful maps and charts are also appended.

This little book supplies some very interesting information on the subject of sleeping sickness generally, and on the circumstances which particularly attend its occurrence in the Katanga.

LIBRARY TABLE.

Time and the Second Generation. By ROBERT J. EWART, M.D., M.Sc. Vict., F.R.C.S. Eng., D.P.H. London: 36–38, Whitefriars-street, E.C. 1912. Price 1*s.*—In this pamphlet, which is a reprint of an article originally published in the *Medical Officer*, Dr. R. J. Ewart gives the results of a statistical inquiry carried out by him in Middlesbrough, and having for its object to discover the influence of parental age on certain characters in offspring. For convenience' sake the age of the mother was taken throughout as representing parental age, and the assumption appears to be a reasonable one in view of the correlation between the mating ages of male and female. The first point examined with reference to this factor was the age distribution of the school children in the community. The figures showed that of children living at various ages the highest proportion was found amongst those born of mothers aged between 26 and 30 years, and the next highest when the maternal age was between 21 and 25. The characters of eye-colour, stature, and mental capacity were then considered, and it was found that children born during the period of maturity of the mothers—that is to say, between the ages of 21 and 30—tend to be more blue-eyed, taller, and of better intelligence than children born at earlier or later stages of the reproductive career. Birth during this period of maternal maturity was also found to be related to a higher susceptibility to infectious diseases and to a higher mortality from such diseases, while on the other hand ordinary infantile mortality was found to be considerably higher amongst children born when the mothers were under 21 or over 30. These facts Dr. Ewart would explain by the hypothesis that death during the first year of life is ordinarily of the asthenic type, that it represents the natural elimination of a weakling, while death from the infectious diseases is more often of the sthenic type, and is

due to an excessive reaction in a vigorous organism. This way of interpreting the facts may, perhaps, relieve the anxiety of the ultra-selectionists who indulge so freely in jeremiads over the decadence of a race in which the baneful activities of medical officers of health are checking the eliminating influence of disease. Dr. Ewart suggests that parental age is also a factor in the determination of sex, the number of male and female children tending to balance while the mothers are in the period of maturity, whereas before that period there is an excess of females, and later in the reproductive life an excess of males. It is inevitable, from the very complex nature of the phenomena under discussion, that Dr. Ewart's conclusions are largely tentative, and they will, of course, need confirmation drawn from a wider statistical area and analysed, perhaps, by more varied methods before they can be fully accepted. But he has certainly presented some novel and extremely suggestive views which, from their obvious bearing on many problems of urgent practical importance, merit serious and critical consideration. It is evident, for instance, that current opinions on such questions as the falling birth-rate, the relation of hygiene to eugenics, the numerical inequality of the sexes, and so forth, would have to be modified to some extent if Dr. Ewart's views were proved on fuller investigation to be well founded.

Public Health Law; an Epitome of Law Applicable to England, Wales, and Scotland. By WILLIAM ROBERTSON, M.D. Glasg., D.P.H., Medical Officer of Health, Leith; Lecturer on Public Health, School of Medicine, Royal College of Surgeons (Edin.), and Edinburgh School of Medicine for Women; Examiner in Public Health, Conjoint Board, Scotland, and University of Edinburgh, &c.; and ARCHIBALD MCKENDRICK, F.R.C.S. Edin., D.P.H., Medical Officer jointly in charge of X Ray, Medical Electrical and Balneological Departments of the Royal Infirmary, Edinburgh. Edinburgh: E. and S. Livingstone. 1912. Pp. 409. Price 5s. net.—The compilers of this volume have set themselves the task of boiling down the law relating to the public health for the benefit of students, making it their object to present it in a succinct form without sacrificing the full import of those sections that should be found of special interest. They have carried out their work with considerable industry and ingenuity, and it must have been no mean task that confronted them; but it is open to question whether the result achieved in dealing with such a subject matter can justify the labour expended upon this particular form of treatment. Students desirous of obtaining some idea of the nature of the ground covered by the statutes and regulations analysed and epitomised should certainly be enabled to do so, and they will find the Acts of Parliament arranged in places relevant to their countries, the English and Scottish laws being kept apart, and the laws relating to the United Kingdom similarly treated. Sections of the Public Health Acts of London and Ireland will be found to be so arranged as to facilitate comparison, and brief footnotes have been added here and there in order to call attention to important points. All this is admirable if the necessary limitations of the work are remembered. The volume consists of an analysis of sections and rules which may be useful as such, but it is open to the observation that it deals with a subject too vast to be analysed so briefly. It must be recalled that the framers of an Act of Parliament usually endeavour to express their meaning as tersely as they can, consistently with clearness and with covering all the ground before them. That they do not always attain their object need hardly be said, but the result of any failure on their part is usually to be found in a string of legal decisions explaining and interpreting their words. In this respect the Acts of Parliament relating to the public health have been no exception to the general rule. The cases under them in which there have been appeals combine with the Acts to make up the law relating to their subject matter, and by the accumulation of statutes, rules, and decisions a branch of the law has established itself which need not necessarily be studied in the ampler and more monumental text-books which might readily be named, but which at the same time cannot easily be compressed into a nutshell or assimilated in tabloid form. Even those working for examinations may find compression such as that before us to have been carried beyond the point at which it will be useful to them, and those not so situated, but desiring to solve a concrete legal difficulty, are likely to find it treated too briefly for their purpose. A great deal of well-directed work has gone to the making of this book, whose uses in some circumstances will be very great; but we doubt if lawyers would recognise it as a comprehensive epitome.

Die Anwendung des Salvarsan (Dioxydiamidoarsenobenzol) in der Ærztlichen Praxis; Eine Studie aus der Praxis für die Praxis. Von Sanitätsrat Dr. RICHARD LENZMANN, Prakt. Arzt und Oberarzt am Diakonenkrankenhause zu Duisburg. Mit 10 Abbildungen und 3 Kurven im Text. Jena: Gustav Fischer. Pp. 196. Price 4 marks.—The output of books and pamphlets on salvarsan may now be described as enormous, and this very immensity of literature is a sure indication of the great interest which the drug has evoked and the great extent to which it has been employed. The author of this work evidently writes from experience, but with his own experience he has combined that of others, and therefore his conclusions are the more trustworthy. Everyone who has employed salvarsan to a great extent must have recognised the power of the drug in removing most syphilitic manifestations, and yet the limitations of the treatment must also be recognised, and the risks, if small, must not be ignored. Here the question of the value of salvarsan is discussed with moderation. An interesting chapter is that in which is described the use of salvarsan in other spirochæta infections, and also in diseases due to other forms of organisms.

Taschenbuch der Zahnheilkunde für Praktische Aerzte. Von Dr. KURT HOFFENDAHL. With illustrations. Berlin: Urban and Schwarzenberg. 1912. Pp. 160. Price 4 marks.—This small book covers in a brief and concise way the dental conditions likely to be met with by the general practitioner of medicine. The opening pages contain a description of the teeth, followed by a well-written chapter on dentition. The operation of tooth extraction is fully dealt with, and there are several diagrammatic illustrations to assist the description of the technique of local anæsthesia. The instruments advocated for the removal of teeth would hardly find favour with practitioners in this country, more especially the curious-shaped elevators for the removal of mandibular third molars. We think that a little more space might with advantage have been devoted to the subjects of caries and periodontal disease.

MISCELLANEOUS VOLUMES.

A LITTLE book, entitled *Surgical Tables*, by M. C. A. (Edinburgh: William Bryce. Pp. 99. Price 1s. 6d. net), consists of notes on surgery, and it is intended to assist candidates in working for examinations. Only those parts of surgery of interest from an examination point of view have been treated. The book has been carefully written, and if used rightly it may prove helpful to students when examinations are approaching, though it must be acknowledged that several subjects are omitted. There is always the danger, however, that such books may be used as "crams" instead of as true aids

to the correlation and classification of knowledge obtained elsewhere by more solid and rational studies.——The same remark applies to *Dental State Board Questions and Answers*, by MAX R. GOEPP (London: W. B. Saunders Company. 1912. Pp. 428. Price 12*s.* 6*d.* net), a collection of questions with typical answers on the various subjects in which a student may be examined by State board examiners in all the States of the American Union. We have repeatedly pointed out that books of this character, unless used with very great judgment and for review purposes only, tend to make the student a "parrot" rather than a thinker. For those, however, who are favourably inclined to this type of book we can say that the author has succeeded in the task he has set himself. There is an excellent index, which adds to the value of the book.——It is often difficult for the young surgeon or others who have to take part in operations to remember all the instruments likely to be needed. Under these circumstances, a little work entitled *A Short Guide to the Instruments and Appliances required for Operations and the Dressing of Cases*, by R. H. CASTOR, Lieutenant-Colonel I.M.S. (Calcutta: Thacker, Spink, and Co. 1912. Pp. 40. Price 1 rupee), may prove very useful.——A handy little pocket-book, measuring 3 by 4½ inches and about 5/16ths of an inch thick, which is intended to supply the information the prescriber is likely to need at the time a prescription is written, is *The Prescribers' Formulary and Index of Pharmacy*, by THOMAS PUGH BEDDOES, M.B., B.C. Cantab. F.R.C.S. Eng. (London: Baillière, Tindall, and Cox. 1912. Pp. 132. Price 2*s.* 6*d.* net). The book is divided into four sections: Internal Treatment, Regional Treatment (dental, nose, throat and ear, eye, genito-urinary, and rectal), External Treatment, and a list of synthetic remedies.——The spread of ambulance aid in the present day surely creates a considerable clientèle to which Mr. CHARLES H. MILES'S *Historical Outline of Ambulance from the Earliest Times* (Bristol: John Wright and Sons, Limited. 1912. Pp. 24. Price 3*d.* net) should appeal. The writer sketchily traces the development of first aid training and ambulance organisations from the Homeric age, describes the rise of the Order of St. John of Jerusalem, with its *serventi d'armi* (the forerunner of the St. John Ambulance Association), and refers to analogous efforts in the Græco-Roman Empire and to the modern development of ambulance work since the Crimean war.

The work of the American Pediatric Society during the year 1911 is recorded in the pages of the twenty-third volume of the *Transactions*, edited by L. LA FÉTRA, and much of it is of an extremely interesting character. Metabolism experiments now occupy the attention of investigators of the nutritional problems of infancy, and two papers on this subject will be read with interest. The first is by Dr. B. R. Hoobler on the Rôle of Mineral Salts in the Metabolism of Infants, and the second is by Dr. Herman Schwartz on Protein Metabolism in Infants and Children. The main conclusions arrived at by Dr. Hoobler are that salts are best absorbed and utilised when in organic combination, and that certain pathological states are produced when an adequate supply of salts is not given; while the most important conclusion resulting from Dr. Schwartz's investigations is that in infants of varying ages the intake of nitrogen is practically the same, while the output is very different. The retention is proved to decrease and the output to increase as the child grows older. In this volume also appear some very interesting papers relating to the physiological and pathological activities of the pyloric sphincter. In a contribution entitled "Acid Control of the Pylorus" Dr. D. M. Cowie and Dr. William Lyon arrive at the following conclusions, that in experiments both acid and alkaline stomach contents delay the evacuation of the stomach, and that free acid is not necessary for pyloric opening. In hyper-secretion in infants, protein-containing food appears to leave the stomach more readily than water because of its acid-fixing properties. In a paper on Muscular Hypertrophy of the Pylorus in Infancy Dr. Henry Shaw and Dr. Thomas Ordway produce evidence to prove that at any rate in certain cases the pylorus undergoes hypertrophy of its muscular elements as the result of post-natal over-activity. They throw considerable doubt on the congenital origin of so-called congenital hypertrophic pyloric stenosis.——We have also received Vol. XXX. of the *Transactions of the Royal Academy of Medicine in Ireland*, edited by J. ALFRED SCOTT, M.A., M.D., F.R.C.S. Irel. (Dublin: John Falconer. London: Baillière, Tindall, and Cox. 1912. Pp. 521). The large majority of the papers contained therein have already received notice in our columns, but we welcome their appearance in book form.——Finally, come two booklets on subjects embraced in domestic economy. The housewife, who must needs look to the pursestrings while providing good and toothsome, yet not too costly, food for those under her care, will find an exceedingly practical exposition of all forms of cake and bread baking, which will meet the needs of both the everyday and the holiday moods, in *The Complete Cake Book*, by MAY LITTLE (London: T. Werner Laurie. Pp. 161. Price 2*s.* 6*d.*). This book contains, besides general instructions as to bread and cake baking, 220 recipes covering almost every style of plain cake, rich and fancy cake, icing, buns and biscuits, and breads and scones. To those who need such a book it can be highly commended.——In the *Harvest of the Hives* (London: Unwin Brothers. Second edition. Pp. 18. Price 6*d.*) the Rev. GERARD W. BANCKS, M.A., pleads for a revival of bee-keeping. He states that if there were a sufficient number of skilled bee-keepers something like 20,000 tons of honey, valued at £1,000,000 sterling, which now go annually to waste, might be gathered in the British Isles, thus adding to the store of food-products and at the same time augmenting the harvest of seed and fruit crops by aiding fertilisation. He tells how to begin bee-keeping, discusses honey as a food and as a remedial agent, gives directions for the making of a pure wholesome mead, urges the manufacture of honey-vinegar for table use as possessing marked delicacy and flavour, and offers a series of simple and unobjectionable household recipes, culinary and medicinal, in which honey can be used to advantage.

JOURNALS AND MAGAZINES.

Parasitology. Edited by G. H. F. NUTTALL, F.R.S., and A. E. SHIPLEY, F.R.S.; assisted by EDWARD HINDLE, Ph.D. Vol. V., No. 3, Sept. 28th, 1912. London: C. F. Clay, Cambridge University Press. Price 10*s.* Yearly subscription £1 10*s.*—The opening paper, by C. Gordon Hewitt, D.Sc., on Fannia (Homalomyia) canicularis Linn. and F. scalaris Linn., contains an account of the bionomics and the larvæ of these flies, together with their relation to myiasis of the intestinal and urinary tracts. F. canicularis, or the "lesser house fly," is the less common of the two species of flies found in houses, and is therefore of some importance in the transmission of infectious diseases. In addition to a description of the adults of both species the author describes and figures their larvæ, both of which have been recorded as occurring in the intestinal and urinary tracts of man. F. scalaris, the latrine fly, is more commonly found in these situations on account of its habit of frequenting latrines and privies. As this species often breeds in

human excrement its economic relation to man is of considerable importance.—Doris L. Mackinnon, B.Sc., contributes a preliminary note on Protists Parasitic in the Larva of the Crane-fly, Tipula sp., which contains descriptions and figures of various flagellates and rhizopods occurring in the intestinal tract of the larva of this insect. The Rhizopoda are represented by two species of Entamœba, one of which resembles in some respects A. limax, and the other is very like those occurring in vertebrates—e.g., E. tetragena, from the human intestine. The flagellata are represented by no less than six different species—viz., Trichomastix, Monocercomonas, Polymastix, Hexamitus, and two species of Embadomonas. One of the latter, E. alexeieffi, is described as a new species, and various stages in its life-history have been observed. — Hubert Henry, M.D., describes a new species of blood parasite, Hæmogregarina anarrhichadis from Anarrhichas lupus, the Catfish. Three types of the parasite were found occurring in the blood, each presenting differences in structure and staining reactions. The author discusses the possible significance of these forms, but in the absence of any knowledge of the stages in the intermediate host it is impossible to decide this question.—William Nicoll, M.A., D.Sc., M.D., in a paper on Two New Trematode Parasites from British Food-fishes, describes two new species, for each of which a new genus is created. Ancylocœlium typicum, n.g., n.sp., was found occurring in the alimentary canal of the horse-mackerel. Zoogonemus vividus, n.g., n.sp., occurs in the sea-bream, and is invariably found only in the rectum.—The Sensory Perceptions of Argas persicus (Oken), by Edward Hindle, B.A., Ph.D., Beit Memorial Research Fellow, and Gordon Merriman, F.Z.S., F.E.S., contains a most interesting account of the sensory reactions of A. persicus, the fowl tick. In addition some notes on the habits of the closely allied Ornithodorus moubata are also included. All stages of the tick are found to be repelled by light and attracted by heat and to some extent by gravity. The most important part of the paper is that devoted to a consideration of Haller's organs. These are proved to be olfactory in function, and a tick in which they have been removed is unable to discriminate its vertebrate host. Such a tick may be fed on normal saline or even gelatine (!) if these substances be heated to about 37° C., and the authors believe that they have discovered a method by which other blood-sucking arthropods may be made to feed on any desired medium. Experiments with Ornithodorus moubata, the human tick, and Hyalomma ægyptium gave similar results, and thus it is evident that the presence of Haller's organs is necessary to a tick in order for it to discover its vertebrate host.—Gastrothylax bubalis, n.sp., with a few Notes on the genus Gastrothylax (Poirier), by J. Alexander Innes, contains the description of a new species of trematode occurring parasitic in the stomach of a Rhodesian hartebeest. The author shows that the atrium of this species is very variable in shape, but the physiology of the organ is not understood. The paper concludes with a brief but useful summary of all the known species of the genus Gastrothylax.

Klinik für Psychische und Nervöse Krankheiten. Herausgegeben von ROBERT SOMMER, O. Professor an der Universität Giessen. Halle: Carl Marhold.—To Band VI., Heft 3, Professor Sommer contributes an article in which he describes the advances made in the methods of experimental psychology during the last decennium, and indicates the lines along which further improvement in technique is desirable.—There is a communication by Dr. Mikulski, of Lemberg, on an intelligence test which he has employed with advantage in the examination of mental patients. He has a series of 20 cards, 20 by 16 cm. in size, each of which is divided horizontally across its middle. On these cards are drawings of animals, such as the camel, frog, cat, dog, ape, swan, pelican, lion, deer, and so on. The patient is given the 20 lower halves laid out before him, and he is asked to fit the appropriate upper halves to each. Record is kept of the time taken and of the number of mistakes, and these can be tabulated.—There is also a more elaborate paper by Dr. Rossolimo, of Moscow, on other methods of experimental psychology, concerned with the testing of attention, will-power, capacity for retaining impressions, memory, association, faculty of combination, the mechanical sense, power of observation, and so on. It may be recommended to the attention of psychologists and of psychiatrists generally.——In Band VI., Heft 4, Dr. Rossolimo continues his elaborate paper on the technique of experimental psychological methods, and shows how his data can be reduced to graphs or "profiles," so that one can see at a glance the results of any particular test in a particular individual's case. Further, these graphs can be so combined by the method of average percentages that a curve can be worked out as characteristic of the power of attention, observation, memory, and so on, in any particular mental disease, such as dementia paralytica, dementia precox, manic-depressive insanity, and other mental diseases. The paper is well worth reading in the original.—Dr. Major, of Nürnberg, writes an article on Psychasthenia in Childhood.—There is a paper by Dr. Todt, of Giessen, on a case of transient aphasia from cerebral concussion, in which the aphasic defect took the following curious form. The patient was unable to find the right word to name or describe a familiar object shown her: the correct word often came a little later, in its wrong place; instead of the proper word came either the wrong word or a word with one or more syllables wrong, sometimes only with a letter wrong. There was a marked tendency to perseveration, and while the patient often knew that the words she employed were incorrect, she could not alter them.—Professor Sommer has a note on a tale of polydactyly occurring in families in a village in the Rhone valley, a tale which has found its way into certain text-books, but which now appears to have been a myth.——In Band VII., Heft 1, Dr. Rossolimo has an article on a series of graphs obtained by his methods from mentally defective children.—The chief article of interest is a long and valuable paper by Dr. Dannenberger on the well-known Becker family of microcephalics in the town of Bürgel. The case of Margarete Becker is classical; there is a bust of her in the anatomical institute in Munich. This patient is still living at the age of 42, and Dr. Dannenberger contributes the results of a recent elaborate examination of her physical and mental condition. He also supplies recent information on her brother Karl and her sister Mathilde, both of whom are living, and are not microcephalic. The latter has Graves's disease. There is also a full account, with illustrations, of the pathological findings in the cases of the other children of the family, Helène, Franz, Katharine, and Marie, all of whom were microcephalics. Some of the material has been previously published by other authors. The paper is a noteworthy contribution to the subject of microcephaly, if mainly from the documentary point of view.——In Band VII., Heft 2, Dr. Berliner, of Giessen, describes the results of his investigations into the reflex-time of the knee-jerk as measured by the "Reflex-multiplikator" of Sommer, modified by the author. A series of cases of both organic and of functional disease of the nervous system were examined, more especially to determine whether variations in the reflex-time might be of diagnostic value. The main conclusion is that in organic disease of pyramidal origin the reflex-time is notably shortened, at the same time as the excursion is diminished.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

HYDROQUININE.

(WIDENMANN, BROICHER AND CO., 1, FENCHURCH-AVENUE, LONDON, E.C.)

THE preparation of hydroquinine from quinine by a synthetic method claims attention since its administration seems to be followed with more satisfactory results than when ordinary quinine salts are employed. Hydroquinine itself occurs in small quantities in cinchona barks, but its separation is difficult and the yield is very small. Now that a definite salt hydroquinine hydrochlorate is obtained by a special synthetic method from quinine it is available for extended therapeutic trial. The salt occurs in white crystals easily soluble in water and alcohol. The taste is intensely bitter. A solution of the salt does not reduce permanganate solution, as is the case with quinine salts. The salt is very much more soluble in water than the ordinary quinine salts. A most important advantage claimed for hydroquinine is that its destructive effect upon trypanosomes is distinctly greater than when a corresponding amount of ordinary quinine is administered. An instance is quoted in which when eleven animals were treated with quinine nine succumbed to the infection, whilst there was only one death amongst the same number of animals treated with hydroquinine. The hydrogenation of quinine would therefore appear to increase its prophylactic powers. Similarly it is stated that in malaria there is promise of hydroquinine giving better results than are given by ordinary quinine salts. Its extreme solubility in water forming a neutral solution renders it convenient for injection. We find that the salt answers the usual reactions of quinine, its action in not reducing permanganate being an exception.

COGNAC BRANDY SANS SUCRE.

(GEORGE BACK AND CO., 13, DEVONSHIRE-SQUARE, LONDON, E.C.)

The results of analysis in regard to the secondary products of fermentation and distillation of this brandy are consistent with the statement that it is a product of the Charente district. For example, the ethers amounted to 150 parts per 100,000 parts of alcohol present, the aldehydes to 10 parts, the furfural to 1·6 parts, and the higher alcohols to 383 parts. These figures approximate to those obtained when genuine old Cognac brandies are under observation. But the chief claim in regard of this brandy is that it is *sans sucre*, and our analysis shows that it is practically *sans* everything in the way of fixed products. Thus on evaporation the spirit yielded only 0·05 per cent. of extractives, so that it is safe to say that it is *sans sucre*. The mineral matter amounted to nothing and the quantity of free volatile acid was too small for estimation. The fixed acid calculated as tartaric acid amounted to 0·015 per cent. The amount of alcohol found by volume was 47·13 per cent. We are of opinion that the brandy is genuinely described. It is very pale in colour, while it has the peculiar and unmistakable taste of genuine Cognac brandy

(1) TABLOID EPININE COMPOUND; AND (2) TETANUS ANTOXIC SERUM.

(BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

1. The tabloid epinine compound is an interesting formula designed to secure the vaso-constrictor and astringent action of epinine on the mucous membranes of the throat, each tabloid containing 1/1000th grain of epinine, the synthetic substance which acts in the same way as the active constituent of the suprarenal gland. The tabloid is made also sedative, expectorant, and antiseptic by the presence in it of suitably small doses of heroin hydrochloride and ipecacuanha, benzoic acid, and oil of gaultheria. The combination, therefore, appeals as a useful one for congested and irritated conditions of the pharynx and larynx, and the suggestion is made that the application of this tabloid as a lozenge should prove valuable to singers and public speakers. 2. We have received two preparations of tetanus antitoxin, one for use in veterinary practice and the other for human administration. The prophylactic use of antitoxin is well known, and the results of the treatment of the so-called "Fourth of July" wounds in America show that tetanus will not develop from an infected wound in a patient who receives shortly after infection an adequate dose of antitoxin. A notable instance of its application occurred last week when Mr. Roosevelt was injected with a medium dose of tetanus antitoxin as a precautionary measure after he had received a bullet wound in a madman's attempt to assassinate him. Antitetanus serum has also been found useful in the treatment of tetanus. The antitoxic serum is contained in hermetically sealed phials of 10 cubic centimetres representing 1500 antitoxin units, while the veterinary serum contains 1000 units. Both products are obtained by immunising horses with tetanus toxin and the unit adopted is that fixed by the hygienic department in Washington.

CODEONAL.

(KNOLL AND CO., 8, HARP-LANE, LONDON, E.C.)

Codeonal is described as a mixture of two parts of di-ethyl-barbiturate of codeine and 15 parts of di-ethyl-barbiturate of sodium. It may be regarded, therefore, as a combination of sodium veronal with the di-ethyl-barbiturate of codeine. It appears that codeine is the only alkaloid of opium which can form such a combination with di-ethyl-barbituric acid. The alkaloidal salt occurs in definite crystals soluble in alcohol, ether, and chloroform, and in about 30 parts of water. The presence of codeine in the compound is easily recognised by well-known chemical tests. It is claimed that the action of the codeine is rendered more potent by addition of the lipoid soluble hypnotic, whereas the action of various narcotics of the same chemical group only amounts to the sum of the separate components. It appears to follow that it is possible to obtain a powerful effect with comparatively small doses and thus to avoid the unpleasant secondary effects of large doses. Clinical results have been brought before us which point out the advantages of this hypnotic, the most important of which appears to be the smallness of dose necessary for narcotic effect, while the by-effects of di-ethyl-barbituric acid are avoided. It has been employed in the diseases of the nervous system and in pulmonary disorders. It is further stated that the reduction of temperature following the use of codeonal is only one-third of that which follows the administration of di-ethyl barbituric acid in similar doses.

SOLUBLE SALTS OF EMETINE.

(WHIFFEN AND SONS, LIMITED, LOMBARD-ROAD, BATTERSEA, LONDON, S.W.)

We have received excellent specimens of the hydrochloride and hydrobromide of emetine respectively from the above firm. As is well known, this alkaloid of ipecacuanha is being administered with success by hypodermic injection in amœbic dysentery and hepatitis in India. The injection of the hydrochloride or hydrobromide has the advantage that it does not produce nausea or vomiting while affording relief in the direction indicated, removing the latent or active dysentery which has caused the suppurative hepatitis and preventing further breaking down of the liver substance. The advantages of emetine salts in treatment were well brought out in a paper on Amœbic Colitis in India by Major Leonard Rogers, I.M.S., published in our issue last week.

THE LANCET.

LONDON: SATURDAY, OCTOBER 26, 1912.

The Standpoint of Modern Pathology.

THE Harveian Oration of Sir JAMES GOODHART directs attention, with the eloquence and raciness that are always expected of him, not only to the fact that in science, as, indeed, in everything, motion, not stasis, is the essential and permanent feature, but also to the fact that owing to coöperation between different branches of science progress is by a vast advancing front, and not along separate lines. Perhaps it would be more correct to say that science now pursues its studies, as it were, by cinematographic views, not by isolated photographs taken at a specific moment of time. Sir JAMES GOODHART refers to the succession of triumphs of pathology that have taken place in the past 40 years, and shows that as a necessary sequence we must have a modified valuation, or even the disappearance, in one decade of things that in a previous decade appeared to be of the utmost importance, as the striking features of one picture in a cinematograph film are modified or altogether absent in a succeeding one. If, for example, we take the case of lardaceous disease, referred to by the Harveian Orator, and consider how largely its phenomena bulked in the early "eighties," and how the medical student of those days was called on to study them in detail with his microscope and reagents, we are struck by the fact that this subject receives comparatively scanty notice in the text-books of to-day. The condition itself is now rarely seen. Its causes are more early discovered and dealt with, and results have become modified accordingly. Syphilis, for example, is adequately treated before it has time to elaborate its foul stews in the alembic of the body. The carious bone is now removed before its exhausting suppuration can degrade the life processes of the organism.

What practitioner of advanced middle-age does not remember the anxious surgeon watching eagerly for the advent of "healthy pus" in certain post-operative conditions? To-day, on the rare occasions on which he finds pus after operation, the surgeon racks his brain to discover what fault of technique is responsible for its appearance. And in like manner the disappearance might be mentioned of many other morbid conditions which were predominant in the age of pathological anatomy—the study of the end-phenomena of disease processes as seen after death; the conditions have disappeared, or are disappearing, before the advance of pathological physiology—the study of these processes themselves in the working. Undoubtedly much of this change must be attributed to the widened sphere of surgery, for the audacity of the modern surgeon now opens up to view those processes in course of operation whose nature we were formerly compelled to infer from the study of their results as seen in the deadhouse. But even so, the opportunities afforded by surgery for the study of morbid anatomy in the making are largely in turn dependent for their existence on preliminary study of that same morbid anatomy. But for the past dominance of morbid anatomy attention would not so surely have been turned in the direction that led to the great discovery whereby alone the surgeon's enterprise, so pregnant of results in the study of the pathology of the living, is rendered practicable or justifiable. Pathology, therefore, as Sir JAMES GOODHART so forcibly points out, has not so much changed in detail as shifted its ground. And the same is true of other sciences fundamental to medicine. Anatomy, for instance, was once regarded as the fixed and permanent basis upon which alone function could find the necessary standing place to operate. But a broader view now prevails, and it is understood that if in structure alone can function find a *πού στῶ* whence to operate, structure itself is modified, and in some sense created, by the operation of function. So we may safely infer that, whether we are yet able to recognise it or not, disordered function induces change of structure, which may tend to return to the original state or to become permanent, in proportion as the disturbance of function is more or less intense and lasting. We are here reminded, too, of the rapid advances of pharmacology during the last decade. The output of synthetic drugs has enabled us to correlate physiological action with structure, and in many instances undesirable groups have been replaced in the molecule by groups which prove to be beneficial and non-toxic, while the medicinal effect of the nucleus is retained. The reactions thus taking place between the drug and the organism in the case of a substance whose constitution is understood form a new field in therapeutics of the utmost importance, though still largely, as Sir JAMES GOODHART points out, in the stage of experimentation.

The great change of ground thus effected is due almost entirely to the fact that the biological sciences, of which medicine is a part, have now begun to follow the mode of inquiry long since adopted with prolific results by the physical sciences—viz., the direct questioning of nature by experiment. Instead of merely observing results and trying as in past times to excogitate a theory of the mechanism that produced them, we now watch the process itself in its working, and see for ourselves how the end is brought about. Of course, in many places we still see darkly, but light increases daily. In the human being the opportunities for studying pathological changes in action afforded by operations undertaken for the relief of individual suffering have increased greatly; while the methods of research, in using the lower animals to study the pathological processes, as well as the variations and perversions of physiological processes, which take place under certain exact conditions that we ourselves formulate, have been greatly improved. To this mode of inquiry more, perhaps, than to all other methods of questioning Nature is due the wider vision that sees in principles, not in details, in processes, not in results, the firm foundation of modern medicine.

The International Standardisation of Disinfectants.

AT the recent International Congress of Hygiene and Demography held in Washington, as was reported in our columns last week, it was resolved "that the disinfectants used in different countries should be controlled by a simple bacteria test, capable of being easily effected, and that a committee from this Congress confer with the Committee of the International Congress on Applied Chemistry to define such tests." It was further resolved "that the Permanent International Commission of the Congress on Hygiene and Demography be requested to appoint a committee of not less than five members to represent this Congress for that purpose." We welcome both these resolutions, and it is to be hoped that international scientific inquiry, with the view of placing the question of the standardisation of disinfectants upon a uniform and satisfactory basis, will result from the action of the Congress.

It is well known that, in spite of all the experimental work that has been done upon the subject, at present there is a divergence of opinion amongst bacteriologists, chemists, and others as to what procedure in laboratory testing may be definitely accepted as a fair means of fixing the germicidal value of the various disinfectant preparations offered to the public for public health purposes. As readers of THE LANCET will recall, we have given much attention to this matter. The report of THE LANCET Commission upon the Standardisation of Disinfectants, which appeared in our columns[1] some three years ago, represented a very large amount of experimental work, and the conclusions were based upon a considerable number of bacteriological and chemical investigations concentrated upon the disinfectant preparations commonly sold to the public. The results did not go unchallenged, the chief complaint of manufacturers interested in the sale of disinfectants being that the figures showed a general depreciation on those obtained by previous observers. THE LANCET Commission, in fact, never found the high carbolic coefficients reported by others, and the conclusion was that hitherto the figures given had been exaggerated. It was quite evident that different lines of experimentation gave different results, and the question left to decide was which method could be accepted as fairly representing the germicidal value, and which could best be relied upon to guide public authorities and others in regard to this important matter. Broadly, it was claimed for the method which we employed, on what we considered to be good grounds, that the margin of error was reduced and that the results put forward afforded an accurate indication of the germicidal power of the disinfectants tested. The results were obtained by perfectly independent observers working in separate laboratories. We welcomed the numerous criticisms which followed the publication of this report, and many suggestions reached us which we admitted to be improvements on the original methods, making, as they did, for greater accuracy, consistency, and simplicity. One of the most exhaustive criticisms appeared in the *Journal of Infectious Diseases* in January, 1911, in which the authors, Dr. JOHN F. ANDERSON and Dr. THOMAS B. MCCLINTIE, two members of the United States Public Health and Marine Hospital Service, described "a method for the bacteriological standardisation of disinfectants." Agreeing with our conclusions as to the defects of previous methods, they found the technique set up by our report a distinct improvement over any other that has been proposed up to this time, adding "that with it constant results can be obtained by different workers," and that it is, "with certain modifications, the best one for determining the coefficient—i.e., the mean between the strength and time coefficients." Another independent observer may also be quoted. Mr. WILLIAM MARTINDALE, in his reference to the subject in the last edition of the Extra Pharmacopœia, says that he is strongly in favour of THE LANCET method. The method is now also favourably referred to in detail in well-known standard works on public health questions, and has been carried into practice in certain leading bacteriological laboratories. We adduce these testimonials to the value of the work of our Commission because at the time at which the report appeared the authors were subjected to a great deal of mistaken comment, and as their names have been made public it is fair that the wide recognition of their labours, which is now taking place, should be set on record.

To return to the interesting resolutions of the International Congress of Hygiene and Demography, their meaning is that such work as we have attempted should now be made a part of the public policy of nations. We welcome the possibility of an international standard being set up. Something should be done to place the sale of disinfectant preparations in a position consistent with public health considerations, and calculated to relieve the purchaser of any question of prejudice. The work we have recorded is obviously at the disposal of any tribunal, and if it should prove of assistance to the proposed international committee we shall be glad to have been associated with other helpers in the field who have in view the same projects of reform. Above all things we are desirous that the movement suggested by the resolutions of the Washington Congress should take place—and the sooner the better. An international consensus of opinion upon some of the elementary points at issue would be of the greatest value, and the opinions expressed by it would be removed from all suspicion of being the result of interested motives.

[1] THE LANCET, Nov. 13th (p. 1454), 20th (p. 1516), and 27th (p. 1612), 1909.

The National Insurance Act.

IN the House of Commons on Wednesday afternoon the Chancellor of the Exchequer made his expected statement in regard to the additional money which would be found to meet the expenses for the provision of medical benefits under the National Insurance Act. He also made two very significant statements, which were considerably expanded in his remarks to the Advisory Committee, which met also on Wednesday, and the minutes of whose meeting we publish to-day. He admitted, firstly, that the scheme for supplying medical benefits was only a provisional one, and that if at the end of three years due causes

for modification could be shown it would be amended. He promised, secondly, that a Central Fund, independently provided, would meet the extra expenses caused in a district by epidemic visitations, under which all the ordinary funds might be required for material treatment. Under the first method of remuneration mentioned in Part II. of the First Schedule of the Provisional Regulations, the method of a simple flat-rate, the sum of 8*s.* 6*d.* is proposed. This figure is, of course, subject to the great primary deduction of the cost of drugs and appliances, as set out in the Second Schedule, to say nothing of complications produced by allowances for extra mileage and temporary attendance on patients. The sum is allocated in three directions. The medical man receives 6*s.* 6*d.* as an inclusive capitation fee for all ordinary medical service. The pharmaceutical chemist receives 1*s.* 6*d.* capitation fee. The remaining 6*d.* also goes to the pharmaceutical chemist, but if it is not needed in this direction it accrues to the medical man, an arrangement which is devised either to remunerate the chemist when many drugs are ordered or to reward the doctor for economy in the same direction. In addition a capitation fee of 6*d.* on the insured will be paid out of the Sanatorium Benefit for the domiciliary care and home treatment generally of tuberculous patients. The terms proposed are thus distinctly higher than those which it has been widely assumed would be offered to the medical profession, and form a very substantial increase of the remuneration projected in the original scheme of legislation, while they fall far behind the figures mentioned in the fifth of the essential requirements which make up the irreducible minimum demand of the British Medical Association. The cost of drugs, appliances, and extras has to be deducted from the total of 9*s.* offered by the Government, while it is required as additional to the 8*s.* 6*d.* demanded by the Association. Mr. MASTERMAN'S statement in the House of Commons on Monday of last week shows that for every 1*s.* in the increase of a capitation grant some £600,000 must be set aside by the Treasury, so that, assuming that the original actuarial estimates were based upon a 6*s.* capitation, inclusive of drugs, appliances, and extras, the offer of the Government is to find an annual additional sum of about £1,650,000.

We have no evidence yet what effect the concession of the Government will have upon the attitude of the medical profession, and the figure, although better than was expected, is one regarding which medical men must find it difficult to make up their minds. If the offer had been somewhat smaller it could have had no effect on the reasonable opinion of the medical profession; if it had been somewhat larger, remembering that the whole scheme is an entirely provisional one, the probability is that a great many medical men would have been found willing to give the scheme a trial. In country districts the amount of money received by medical men as a capitation fee for drugs will be a set off against excessive mileage, which here is an important item. It must be remembered, as we have already pointed out on more than one occasion, that the medical men are expected to bear the risk of insurance against invalidity, while they are undertaking this insurance without inviting the position, and in some cases are most legitimately resenting the interference with the ordinary routine of their practices, as well as the setting in authority over them of Local Insurance Committees whose constitution they regard as ominous. But a grant from a Central Fund to meet the cost of epidemics will lessen that risk, and the definite statement that the scheme is provisional puts a term to the possible losses. The difficult question remains whether it is possible, or advisable, to allow measures of local option to prevail in different localities, or whether the rigid centralisation of government, demanded by the British Medical Association, should be insisted upon.

We have so far alluded only to the simple offer of a capitation rate. Under the four other alternative methods of remuneration suggested by the Provisional Regulations a more elaborate calculation will be required to see what the gist of the offer now made by the Government amounts to, for the numerous blanks in the rates of payment will all have to be settled by arrangement between the local medical profession and the Local Insurance Committees. Similarly, the British Medical Association has two official alternative schemes for the provision of a Public Medical Service, and there have been published in the *British Medical Journal* two other schemes in which the amount of money available, whatever it may be, can, in the opinion of their projectors, be more advantageously employed. The probability is that the State Sickness Insurance Committee of the British Medical Association, whose report to the Representative Body must largely dictate the policy of the Association, will discuss the proposals of the Government without particular reference to one scheme or another, but simply in the light of a great improvement in the chances of the medical man who is willing to work the Act. This much all must allow, and the State Sickness Insurance Committee, though it may find itself unable to approve of anything which does not conform to the pattern dictated by the six cardinal points, will be only prudent if it looks closely into the policy of the immediate reopening of negotiations with the Government.

DEAN OF ST. PAUL'S AND CHRISTIAN SCIENCE.—The annual medical service at the Parish Church, Brighton, was held on Oct. 20th, and a large number of medical men and nurses accepted the invitation to be present. The special preacher was the Dean of St. Paul's Cathedral, who took the opportunity of strongly deprecating Christian Science. It so happened, he remarked, that he was a member of a committee which met frequently to investigate that subject. It was, as they all knew, very much in the air. They were constantly hearing of alleged marvellous cures by prayer and unctions which were considered by science as impossible; but up to the present time the committee had not yet found any evidence at all of any phenomenon which suggested supernatural intervention. All the evidence of supernatural healing had entirely broken down, and the Dean hoped that Churchmen and Churchwomen would be exceedingly cautious in indulging in or dabbling with occult supernaturalism. The Christian Scientists were as ignorant of the rudiments of Christianity as they were of science. The collection was for the Queen's Nurses' Fund, the new Brighton remodelled home for the Queen's Nurses having just been opened as a memorial to King Edward. The medical service was the eighth that has been held in Brighton.

Annotations.

"Ne quid nimis."

THE PROBLEMS OF PSYCHIATRY.

WE publish this week an Address on Mental Disorders delivered by Sir George Savage before the Section of Psychiatry of the Royal Society of Medicine last Tuesday. The address, with the expressed intention of the deliverer, went over a wide field, for the section is a new one, and no doubt the first president felt that with such an expanse of virgin soil to be tilled it might be embarrassing at the outset to put any limits to the work which the section might do, or suggest any confines to the value which might accrue to medicine through its deliberations. Sir George Savage's general message, uttered out of the fulness of long experience, is optimistic, for while he warns us that progress does not follow on the heaping together of facts, but upon the drawing of due lessons from those facts, he shows clearly that only by the industrious collection of material can proper guidance be obtained. Only from organised and combined work can come the rapid revolution in attitude and designs which is so clear a mark of the scientific medicine of the last 20 years. The value of coöperative work over a large field and within no rigid boundaries is testified to incidentally in Sir George Savage's address when he points out the risk of being led into general deductions by isolated incidents. This risk can only be minimised by steady and often laborious inquiry, when the incidents will either appear as no longer isolated, or much toil will have been spent with apparently useless results. As a matter of fact such toil is not useless but most valuable. Even if the incidents in question are found to be isolated and therefore of less substantial value, only research can prove this, and the time spent on the research must not be grudged, for the labour that is thus saved for other people may be incalculable. Sir George Savage compares such work to pursuing knowledge down blind alleys, and his simile may be used to point out that an alley is not known to be blind until someone goes down to the bottom of it; after which the alley can be charted as "No thoroughfare," and other travellers along the main route will not lose their time in vain digressions. We may expect that the deliberations of the new section of the Royal Society of Medicine will take note of divagations from the apparently broad path, and will discuss their value; and we may feel quite sure that under Sir George Savage's ægis such discussions will be of high scientific character, and will not become symposia of the fanciful. Neurologists and psychologists alike will sympathise with his view that their sciences should not be divorced. Sir George Savage puts the position very simply when he says that there are only a limited number of ways in which the nervous system can express itself, and therefore similar symptoms will be present, whether the central nervous system is primarily affected, or whether its functions are interfered with by the misconduct of one of its servants. A section of psychiatry may expect to have advanced for its consideration under one division of its labours the most advanced physiology and pathology, and under another division the widest social questions.

THE SURGEON'S ASSISTANTS.

EVERY surgeon realises the importance of skilled assistance in his operations, and to none is it brought home more vividly than to the ophthalmic surgeon. Dr. Samuel Theobald, the veteran professor of ophthalmology at the Johns Hopkins University, makes some valuable suggestions in a paper read before the American Ophthalmological Society, and published in the Johns Hopkins Hospital Bulletin. To the experienced they may appear to be the veriest truisms, but to those for whom they are intended they should be of great use. They might with advantage be extended and amplified, thus forming an invaluable manual for ophthalmic house surgeons and assistants. What ophthalmic surgeon to a hospital is there that does not dread the advent of a new house surgeon? With what trepidation does he not watch his every movement at the first operation? Is he deft with his fingers and light of touch, or will he swab an eye as though it was an amputation wound? Often the surgeon will dispense with assistance rather than run the greater risk. It is sometimes wiser to leave a speculum to its own devices than have it pressed upon the eye or pulled out altogether by an inexpert assistant. There are, however, some operations in which the part of the skilled assistant is at one stage or another as important as that of the chief, and not infrequently in some complicated case intelligent coöperation may save an eye otherwise irretrievably lost. Perhaps it is a cataract extraction; the patient squeezes and vitreous appears in the wound; everything may depend upon the assistant easing the speculum and quieting the patient, whilst the surgeon delivers the lens with a spoon or vectis. Dr. Theobald has also some words of wisdom for the nurse and pharmacist, not to speak of the manufacturing optician. He waxes poetical over the instrument maker.

> Shrine of the mighty, can it be
> That this is all remains of thee?

he quotes from Byron *apropos* of the cataract knife which has been *ground* instead of being sharpened on the oil-stone.

AN ANTHROPOLOGICAL SURVEY OF PRISONERS.

IN the recently issued annual report of the Commissioners of Prisons for the year ended March 31st, 1912,[1] it is mentioned that the anthropological investigation which has been proceeding in the convict prisons during the past ten years has now been completed. A large amount of statistical material bearing on the physical and mental characters of some 3000 convicts has been collected, and has been analysed and tabulated by Dr. Charles Goring (one of the medical officers of Parkhurst Prison) in the Galton Eugenics Laboratory of University College, London, under the supervision of Professor Karl Pearson. The Commissioners promise that the statistics and report will shortly be published in full, and meanwhile they indicate briefly the main results of the investigation. The general conclusion arrived at by Dr. Goring is, they state, that criminals are not differentiated from the rest of the community by any physical or mental anomalies, though they appear as a class to be below the average of the population at large in height, body weight, and general intelligence. The only distinctive character which is imputed to them is that "they manifest a constitutional incapacity due to weakness of will or want of power, resulting in an incapacity to live up to the required social standard, thus bringing them within the meshes of the criminal law." It is not made quite clear whether the existence of this constitutional incapacity has been established by some special psychological examination directed to that particular point, or whether it has been merely inferred from the fact that the individuals dealt with were convicted criminals. In the latter case the terms used would appear to involve some rather large assumptions, amounting, indeed, to a begging of the whole question. Apart from this point, it will be seen that Dr. Goring's research fully confirms the conclusions of other investigators who, approaching the subject on similar lines, have also

[1] THE LANCET, Oct. 19th, 1912, p. 1090.

failed to find any evidence of a "criminal type" or of a specific tendency to criminality. The extensive inquiry of Baer dealing with about 1000 prisoners in the Plötzensee Prison of Berlin, which formed the basis of his voluminous work, "Der Verbrecher in Anthropologischer Beziehung" (Leipzig, 1893), may be specially noted in this connexion as resembling the English investigation in range and as leading to practically identical results. Though the more extreme views associated with the name of Lombroso do not find many supporters nowadays amongst criminologists, they have still sufficient hold on popular opinion to render it very desirable that a final and authoritative proof of their unsoundness should be put on record. Dr. Goring's investigation affords such a proof, and is, moreover, a gratifying sign of the encouragement of scientific activity in our prison administration.

INFLAMMATORY REACTIONS PRODUCED IN THE SPINAL CORD BY INFECTION OF ITS LYMPH STREAM.

TWO assistant medical officers of English asylums—Dr. David Orr, of Prestwich, and Dr. R. G. Rows, of Lancaster—have published in the *Review of Neurology and Psychiatry* for September the results of a long series of experimental investigations amplifying those already noted in THE LANCET,[1] and concerned with the inflammatory phenomena induced in the spinal cord by infecting the ascending lymph stream of the spinal nerves connected with it. In this latest series valuable experimental evidence is adduced as to the manner of development of acute myelitis, and its results are calculated to throw much light on the pathogenesis of acute poliomyelitis and analogous conditions. Dr. Orr and Dr. Rows have previously shown that toxins and organisms can travel by the lymph streams of peripheral nerves into the central nervous system, utilising for the purpose the method of placing in contact with the sciatic nerve a celloidin capsule containing an organism. While they were able to prove that degeneration of the myelin sheaths of fibres in their intramedullary course might thus be produced, they did not find any unequivocal evidence of actual myelitis. In the present series of experiments the capsule containing the organism was placed much nearer the spinal cord. The latter was exposed at the level of the lumbo-sacral enlargement, and a capsule containing staphylococcus pyogenes aureus was sutured against the dura mater; in some other experiments it was placed close against an intervertebral foramen. All the experiments gave positive results, although in some instances the changes were more acute than in others, owing to the capsule having burst, and the organisms having actually invaded the nervous system. Speaking generally, it was found that the nervous and meningeal tissues nearest to the focus of irritation suffered most, and the phenomena became less marked from without inwards, the minimum being found near the central canal of the cord. In the epidural tissue polymorphonuclear leucocytes were present in abundance, with plasma-cells, and others like those which have been designated polyblasts by Wickman. In the dura mater and capsule of the posterior root ganglion, in the substance of the ganglion, especially at its proximal pole, in the perineurium of the spinal roots, in the adventitial sheath of the vessels in these roots, in the pia mater and far along the vessels passing into the spinal cord, were plasma-cells in quantity; round many of the vessels neuroglia-cells were proliferated. It is important to note that the cellular infiltration concerned the veins only; the arterioles were unaffected, a condition readily explicable on the view that the lymph regains the general circulation through the walls of the veins and capillaries, and as in this instance it contained toxins it produced irritative effects. Incidentally, it was shown that the dura mater, with its covering of highly vascular loose areolar tissue, forms a most efficient protection to the spinal cord, and to a great extent serves to neutralise infection. Only rarely were actual organisms found to have passed the barrier of the dura mater. Notwithstanding the absence, or comparative absence, of organisms, throughout both the grey and the white matter of the cord the vessels exhibited marked pathological changes, being dilated, infiltrated with round cells, sometimes thrombosed, sometimes the seat of hæmorrhages, and not merely the walls of the spinal vessels, but also the neuroglia of the cord, showed obvious signs of pathological irritation. Degenerative changes of an acute type also occurred in the nerve cells of the grey matter. Dr. Orr and Dr. Rows give a sketch of the present position in regard to the pathogeny of poliomyelitis, and point out that the evidence adduced by Wickman and others is incontrovertible, in so far as it proves that poliomyelitis is essentially a disseminated meningo-myelitis or rather meningo-myelo-encephalitis. In that condition the intervertebral ganglia are affected in the same way as the cord, while the peripheral nerves are normal. This is an important point. It will be remembered that the sympathetic nerves join the mixed nerve near the distal end of the root ganglion, and the suggestion is made that the exciting agent of poliomyelitis reaches the central nervous system from the intestine by the sympathetic nerves entering at that point. In this way the integrity of the peripheral nerves can be explained. The resemblance between the experimental phenomena produced by the authors and the pathological phenomena found in acute poliomyelitis is exceedingly close, and there is little reason to doubt the validity of their conclusions that poliomyelitis is essentially a lymphogenous infection. The principles enunciated may also be applied to general paralysis, trypanosomiasis, Landry's paralysis, and rabies. In all their experiments, without exception, Dr. Orr and Dr. Rows found a large collection of plasma-cells and polyblasts at the proximal end of the posterior root ganglion, and the appearances are suggestive of a special reaction at that spot. They are inclined to think that this indicates some mechanism of defence against the further upward extension of toxins and organisms, constituted possibly by some local anatomical peculiarity. The paper bears witness to a large amount of patient research, and the authors are to be congratulated on their prosecution of original work of so high an order in the midst of the routine of asylum life and administration.

[1] THE LANCET, Jan. 14th, 1911, p. 116.

MERCURY IN THE "BOWLER."

NITRATE of mercury as an application for improving the felting properties of the furs used in hat-making has long been recognised as a source of mercurial poisoning to those engaged in the industry. The risk, however, is not confined to the hatter's furrier, for, as is clearly shown in a paper contributed to our columns this week, the felt-hat makers themselves, including the man who looks after the hats when the hard felt shape is being treated in the stoving oven, may develop the well-known symptoms of chronic mercurial poisoning. It appears that "carrotting" or *secretage* is a term employed in the trade to describe the treatment of the felt or fur of an animal (commonly that of the rabbit) with nitrate of mercury, previous to its being handed over to the felt-hat maker. The term is derived by some from the fact that carrot oil at one time served a similar purpose. Mercurial carrotting so far does not appear to have been displaced by a harmless dressing which gives equally satisfactory results from the point of view of manufacture, but

it is desirable that some such substitute should be found in the interests of the workers concerned. The question may also be considered as to whether the finished material may not be a source of danger to those who wear the felt hat, a class that obviously forms a big proportion of the community. According to an analysis of materials a "hat body" may contain as much as 0·138 per cent. of mercury. The amount of mercury in the hat would be, roughly, 1 part per 800, or 1 oz. mercury in 400 hats each weighing 2 ounces. In addition to this arsenic was also found. We hasten to add that we are not suggesting a cause of baldness.

TRAUMATIC INTESTINAL OBSTRUCTION.

IN the *New Zealand Medical Journal* for August Dr. W. Young has described a very unusual form of intestinal obstruction—obstruction the result of abdominal injury. A woman, aged 29 years, fell down some stairs 15 feet high on the evening of Feb. 24th, 1912. She was carried to bed and vomited bright red blood. When seen by Dr. Young on the following evening she was lying on her back, evidently in great pain. The right hip, over which was a bruise, was painful, the knee was drawn up, and movements of the leg caused great pain. The abdomen was distended and tender, and for several inches above the pubes there was dulness. Neither urine nor fæces had been passed since the accident. The pulse and respiration were rapid. Urine drawn off with the catheter contained albumin but no blood. An enema was returned without flatus. Dr. Young sent her into hospital. On admission, about 11 P.M., the temperature was 96° F., the pulse was 148, and the respirations were 38. There was still some dulness above the pubes, but a catheter drew off only a few ounces of urine, which contained no albumin. A turpentine enema was given and yielded only a little flatus. The patient was in great pain. An operation was recommended but declined. Morphine, strychnine, and a saline aperient were ordered. She vomited sour-smelling greenish fluid, and was very restless and thirsty. Hot water taken was immediately returned. On the 26th she vomited continually fæcal-smelling fluid. The temperature was 96°, the pulse 148, and the respirations were 48. She still obstinately declined operation. Sixteen ounces of urine were drawn off. An enema caused the discharge of a little flatus. On the 27th the pulse was weaker and irregular and fæcal vomiting was continuous. Strychnine and pituitary extract were given hypodermically. On the 28th the bowels acted after administration of a turpentine enema and several times involuntarily. At 8 P.M. she died. The pathologist reported that some free blood-stained fluid in the abdominal cavity and a small hole with some effusion in the mesentery were the only lesions found at the necropsy. Dr. Young's first impression was that the patient was suffering from ruptured kidney; his second that the intestine was ruptured. It was a surprise that the necropsy showed no further lesions than those mentioned. In this connexion a paragraph in Nothnagel's "Encyclopædia of Practical Medicine," 1905, p. 586, is interesting: "Cases have been recorded in which abdominal injury produced symptoms of occlusion of the intestine. In very severe cases of this character, with all the symptoms of occlusion, in which the patient died, autopsy has often failed to show any anatomic evidence of occlusion of the intestine. It is difficult to decide in some of these cases whether or not the intestinal wall was really injured directly or whether the paresis of the bowel was an indirect effect of a remote cause which did not affect the bowel directly." We may point out that a case of "Intestinal Obstruction from a Kick in the Abdomen" has been recorded in our columns by Dr. Gilbert Kempe and Mr. E. Kempson Brown.[1] The patient was a lad, aged 17 years, who was kicked in the abdomen by a horse. When seen three hours later he was lying on his back in great pain with the recti rigid. There was superficial bruising in the right iliac region, which was tender. In the left iliac region was a patch of dulness of the size of the hand. As in the previous case, the temperature was subnormal (96·5°). Vomiting and abdominal distension followed, and the temperature rose to 101°. Morphine was given and the bowels did not act for four days. Then strychnine was injected and they acted freely. The patient did well until the sixteenth day after the accident, when meteorism and difficulty in getting the bowels to act again began. This condition developed into complete obstruction, necessitating laparotomy, which showed recent plastic peritonitis. Enterostomy was considered necessary. A fæcal fistula followed and another operation had to be performed to close this. The view adopted was that hæmorrhage into the abdomen, due to the injury, led to plastic peritonitis and intestinal obstruction. There was no evidence of perforation.

PROLAPSE OF THE RECTUM COMPLICATED BY ULCERATION AND EVENTRATION.

IN the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of Sept. 1st Dr. H. Griewank has reported a case of prolapse of the rectum with a very rare complication—ulceration and eventration. The condition was observed in a native of Senegal, aged 35 years, who was taken to the dispensary at Bamako on July 7th, 1912, in consequence of an accident when he went to stool. He had suffered for three years from prolapse of the rectum, which had been increasing. Every time he went to stool he had to reduce the tumour. During the last two or three months the prolapsed portion of the rectum became ulcerated on the right side. He did not seek medical advice, and the ulcer increased until it attained the size of a two-franc piece. On the day he was taken to the dispensary, while straining at stool, he suddenly felt a severe pain at the anus, and had a sensation that his abdomen was being emptied through the anus. On examination he was a fairly strong man with a striking peritoneal facies—pinched nose, sunken eyes, and an anxious countenance covered with cold sweat. Respiration was laboured and painful, and the pulse was filiform and irregular. There was abundant alimentary vomiting. The abdomen was hollow. The patient had a frequent desire to micturate, and complained of pain at the end of the penis. There was no fever. In the perineal region was a tumour of the size of the head of an adult. It emerged from the anus and spread out between the separated thighs. It was composed of two different parts. On the left side was a mass of the size of the fist and of a rosy slightly greyish colour. This occupied about three-fourths of the anal circumference and projected from 12 to 15 centimetres. The right part of the tumour was composed of a coil of small intestine about 20 centimetres long which, accompanied by its mesentery, spread out like a fan. At its base it was surrounded by the periphery of the rectal ulceration and the sphincter ani, which strangulated it. The whole of the tumour was soiled with fæces. On palpation the tumour was found œdematous. After washing the small intestine an attempt was made to reduce it. But the patient was in such pain that he contracted his abdominal muscles and prevented reduction. Moreover, the supervention of syncope necessitated suspending the procedure. Fresh attempts also proved unsuccessful. The patient appeared to be in too grave a condition for the administration of chloroform. He died three hours after the accident. The fact that

[1] THE LANCET, August 15th, 1903, p. 452.

the condition present in this case is exceedingly rare in European practice is no doubt due to the fact that in a civilised person such neglect would be extremely improbable. What was the cause of death? The rapidity with which it succeeded the accident excludes peritonitis or stercoræmia from intestinal obstruction. Only two hypotheses seem open—hæmorrhage from tearing of a large mesenteric vessel, and reflex inhibition due to traction on the solar plexus. Unfortunately, a necropsy could not be performed to decide between these two causes, but Dr. Griewank favours the second. With regard to the treatment in a similar case in which operation was possible he points out that either the rectal or abdominal route might be adopted. Reduction by the rectal route seems at first sight the easiest operation, but it is open to the objection that fæcal matter may already have been introduced into the abdomen or may be introduced in the reduction of the intestine. By opening the abdomen, on the other hand, a much better view and greater security from sepsis would be obtained. The procedure would be as follows. After antiseptic lavage of the prolapsed intestine and the whole region, including the rectum, the patient would be anæsthetised and placed in Trendelenburg's position. Median laparotomy would be performed and the intestine pulled back into the abdomen. The rectal tear would next be dealt with. Simple suture would be only a *pis aller* justified by a grave condition of the patient and the necessity for speed. The ideal operation would be resection of the prolapsed rectum.

SURGEONS NEEDED FOR THE BALKAN WAR.

WIDE publicity has been given to an appeal by Lord Rothschild, chairman of the Council of the British Red Cross Society, for funds to enable the society to take its proud share in the alleviation of the vast suffering that this unfortunate war will necessarily entail. The invested funds of the society being strictly confined to use in wars to which this country is a party, appeal must necessarily be made outside, and it is hoped that the response will be generous. But money is not all that is wanted. This war differs from most modern wars between civilised nations in the fact that the military medical services in the belligerent countries have never been adequately organised, and are sadly lacking in both *personnel* and material. Given sufficient money, the material deficiency can be easily supplied, but not so that of a medical service, and offers of service from young medical men will be gratefully welcomed by the countries interested. The conditions of service will undoubtedly be arduous. But opportunities for gaining practical experience will be very great, and those of the younger generation who contemplate devoting themselves to their country's service, should she unfortunately be dragged into war, should remember that such experience is absolutely necessary before even the most professionally competent surgeon can render really useful service as a military medical officer. The details of medical practice, as learned in the schools and practised in civil life, form only a small part of the work that necessarily falls to the lot of a military medical officer on active service. The remainder can be properly learned only in war, and experience has shown that the most well-meaning and competent medical man, until he has acquired that knowledge, is almost as much of an encumbrance as a help. Further, these qualities of discipline, command and subordination, and of organisation are, in themselves, of the utmost value, not only in war, but in any time of public calamity, such as earthquakes, rioting, mining and other disasters on a large scale; and in the trend of modern medical practice will undoubtedly prove a valuable asset to their possessor. For those, then, who are free from binding ties, and who would wish to be in a position to serve their own country should she unhappily ever be dragged into a big war, an opportunity of the greatest value is now opening itself. It is officially stated that heavy casualties with which the existing military medical services are even now inadequate to cope have already occurred at the very outbreak of war. Yet present requirements can be only small compared to what will be the case in the immediate future. Any, therefore, who feel moved to offer their services should at once communicate with the secretary, British Red Cross Society, 9, Victoria-street, S.W.

THE COMPULSORY NOTIFICATION OF PHTHISIS IN NORWAY.

SINCE the introduction, on Jan. 1st, 1901, of compulsory notification of all infectious forms of tuberculosis in Norway statistics have been compiled which are interesting in some respects, but disappointing in others. High hopes have been entertained of the information to be gained by the compulsory notification of phthisis, and these may yet be partially realised; but from the very insidious nature of the disease, its latency, and its combination with other infections, attempts to estimate its distribution and importance must necessarily meet with only partial success. However, the *Norsk Magazin for Laegevidenskaben* for August has a report by Dr. Ustvedt, medical officer of health of Christiania, on the incidence of phthisis in his district in the period 1901 to 1910 which contains some valuable information. In the introduction to his report he reviews the numerous sources of error to which compulsory notification is open. Some cases, especially in the early years of compulsory notification, eluded notification altogether, while others were notified only towards the close of the illness; in fact, about 20 per cent. of all the patients notified died within a month of notification. Little knowledge is to be gained by compulsory notification as to the nature of the disease or its previous history. Again, the life of the average consumptive is long enough to permit of his frequently changing his address, and thus upsetting the calculations for each district. The machinery necessary to prevent repeated registration of one and the same case is complicated and tedious to work, and the tracing of registered patients who have migrated to another district, and whose deaths have been attributed to causes other than phthisis, necessarily involves much labour. Since the period 1861 to 1865, when the death-rate from phthisis in Christiania was 4·04 per 1000, the mortality from phthisis has been steadily falling, but the present figures for Christiania are far from satisfactory, for while its general death-rate is lower than that of any other European town, its death-rate from phthisis compares unfavourably with that of such towns as Edinburgh. The number of patients annually notified as suffering from phthisis in Christiania was as high as 6·39 per 1000 in 1901, but after compulsory notification had existed over a year the annual returns were much lower, the average for the ten years being 3·89. Curiously enough, there were considerable fluctuations from year to year, the difference being sometimes as much as 1 per 1000. Such factors as epidemics of influenza might be the cause of these oscillations, but accurate information on this point is not forthcoming. The expectation of life of the consumptive has been estimated by Dr. Gjör[1] at 33·4 months, and by Dr. Thue[2] at 31·4 months. Dr. Ustvedt arrives at an almost identical figure, 31 months, by comparing the number of notifications with the total number of consumptives living in a given year. A comparison with Dr.

[1] Norsk Magazin for Laegevidenskaben, p. 330, 1886.
[2] Forhandlinger i det Medicinske Selskab, p. 42, 1904, Christiania.

Gjör's estimate, which was published in 1866, shows that the consumptive's expectation of life so far from being lengthened under present conditions is actually shortened. Such a conclusion is a sad comment on the modern methods of treating consumption, but it must be remembered that Dr. Gjör's and Dr. Ustvedt's estimates were arrived at by different methods of calculation, and that in Dr. Ustvedt's case, as already shown, an appreciable number of consumptives were moribund when their disease was notified. Within a year of notification 46·9 per cent. of the patients notified in 1901 were dead, but in 1910 this percentage had fallen to 37·5, the difference being evidently due to the earlier notification of patients. The proportion of patients without symptoms was fairly constant from year to year, and constituted 6 per cent. of all cases notified. For the first eight years of compulsory notification the mortality, estimated in 1911, was over 60 per cent., but for the year 1909 it had fallen to 49·3 per cent. Of the many comparative tables published in the report, one is of special interest, as it shows in separate columns the fate of notified patients who had or had not undergone a course of sanatorium treatment. The expectation of life, it appears, is considerably better for the consumptive who has resided in a sanatorium, but favourable though this report is to the sanatorium, it is not, as Dr. Ustvedt points out, altogether fair, for advanced disease is often made a contra-indication for sanatorium treatment. In the period 1906 to 1910 phthisis occurring between the ages 7 to 14 was classified in a separate table. There were 104 boys and 155 girls in this class, the incidence of phthisis at this age being therefore at the rate of 1·41 per 1000 children of the same age. The report also confirms the old observation that the incidence of phthisis increases with the density of the population.

SUTURE OF THE EXPERIMENTALLY DIVIDED THORACIC AORTA.

MODERN surgery does not recognise any organ or tissue as being out of its scope. All the vital organs—the brain, the heart, the lungs—are subjected to surgical treatment with increasing safety; and if the inaccessibility of any region of the body is an apparent bar to the surgeon who desires to apply his methods of treatment to the cure of its diseases, he devises a plan of approach by which vital organs and tissues are disturbed as little as possible. Much of the recent advance in the surgery of the larger blood-vessels has been surveyed and pioneered by experiments on animals, and in this respect we are particularly in the debt of the American investigators.[1] In the *Annals of Surgery* for September Dr. W. M. Boothby describes the technique by which he has been enabled to divide and subsequently suture the intrathoracic aorta of the cat with some measure of success. Six animals were operated on and two died, the rest remaining in apparently undisturbed health after the operation. In one of these latter animals the thoracic duct was accidentally divided during the operation; the fact that this was not fatal is ascribed by the author to the establishment of a collateral channel. The points of technique on which he lays special stress are the use of intratracheal anæsthesia at a low pressure, careful preparation of the area of incision, the edges of which are guarded by wrapping them with thin sterilised silk throughout the operation, an adequate incision extending from the sternum or costal ridge in front to the head of the rib behind, and the utmost care in the necessary manipulations of the aorta. This is approached in its descending portion by a transpleural route passing behind the left lung, and divided between clamps, two above and one below the line of division. There should be an interval of not less than half an inch between the clamps in order to leave room for the application of sutures; on the other hand, they should lie, if possible, between two neighbouring intercostal arteries, so that no branch springs from that portion of the aorta which lies between the clamps. It is essential that the "stay" sutures passed into each end of the divided vessel be not dragged upon, lest the aortic wall be torn. When the clamps are removed the distal one should come off first, and both are relaxed very slowly. It is startling at first sight to find that such a drastic procedure can be carried out with fair prospect of success; nevertheless it has been done, and perhaps before many years are past the same method of approach may be applied to the treatment of lesions of the descending thoracic aorta in man.

[1] THE LANCET, Oct. 19th, 1912, p. 1091.

BIRTH AND DEATH REGISTRATION AT HOME AND ABROAD.

AMONG students of vital statistics the conviction has recently prevailed that the methods obtaining in England, as well as in some foreign countries, for the measurement of infantile mortality are unreliable, and the results in many cases misleading. In view of the great and increasing importance now attaching to this subject the Royal Statistical Society has rendered a welcome service by publishing the report of a Special Committee[1] of their members on the system adopted in different countries for the registration of births (including the stillborn) and of deaths in the first year of life. For the necessary investigation the society has been fortunate in securing the coöperation of several distinguished statisticians whose official relations with public health may be accepted as a guarantee of their proficiency. Among these investigators we notice the familiar names of Sir William C. Dunbar (late Registrar-General), Sir Shirley F. Murphy, Dr. Reginald Dudfield, and Dr. T. H. C. Stevenson. The terms of reference to this committee were to the following effect—"To enquire into the systems adopted in different countries for the registration of births (including stillbirths) and deaths, with reference to infantile mortality. ....." Letters of enquiry were sent to the registration authorities of a large number of foreign countries, from about 100 of which replies have been received. The report itself has been placed on sale and a copy of it should be secured by those of our readers who are specially interested in the subject, and this must be a large number. It has been drawn up in four sections, as follows:—(1) History of Registration; (2) The Practice of Registration Generally; (3) Stillbirths; and (4) Statistical Methods. Having regard to the great value of the information received, the investigators have thought it desirable to extend their survey to the methods of calculating the general rates of mortality, although it was originally intended that the report should be limited to the methods of calculating infantile mortality. At the present time the principal function of vital statistics is generally recognised as being the examination of the causes of unnecessary and preventable wastage of human life. In the words of the report, "vital statistics may, in effect, be regarded as taking the place of laboratory experiment in social physiology and pathology." Accordingly, it is obvious that sound conclusions cannot be obtained unless the basic data are trustworthy, and the methods of calculation uniform, or at least comparable. From the observations recorded, however, it is evident that these conditions only rarely obtain; and that there is need of greater uniformity in the practice of calculating fertility and

[1] Report of Special Committee on Infantile Mortality. Royal Statistical Society, Adelphi-terrace, Strand, W.C. Pp. 61. Price 1s.

mortality rates; for it is only by the comparison of carefully estimated and adjusted rates that questions affecting the health and welfare of nations can be effectively studied. In England and a few other countries infantile mortality is defined as the ratio of births to deaths in the first year of life; but in several foreign countries the registered births are replaced by the estimated numbers living under one year. The latter method is unsound, involving as it does two serious errors: (1) the error associated with all population estimates for intercensal years, and (2) the error arising from the assumption that the infants aged under one year form a constant proportion of the population at all ages. It is very desirable, say the reporters, that the latter value should be universally employed—a conclusion which involves the necessity for due registration of stillbirths. The recommendation with respect to the latter is as follows: (*a*) that stillbirths should always be tabulated separately; (*β*) that for general use infantile mortality should be calculated from (*a*) the births of children born alive, including those born alive but registered as dead, and (*b*) the number of deaths within the first year of children born alive, including, if necessary, the children "presented dead." If the mortality among live-born children only is wanted, then it is obvious that stillbirths must be altogether excluded.

DUPUYTREN'S CONTRACTION AMONG LACE-WORKERS.[1]

WE have received from Sir Arthur Whitelegge a copy of this report, which is made to him by Dr. Edgar L. Collis and Mr. Robert Eatock, H.M. Inspectors of Factories, who have jointly made inquiry as to the occurrence of Dupuytren's contraction among persons engaged in lace manufacture. The report is liberally illustrated with woodcuts of machinery and with photo-lithographs which clearly indicate the pathological conditions found among workers in this occupation. The present inquiry was authorised at the instigation of the Society of Operative Lace-workers, who applied to the Home Office for the inclusion of this disease in the Third Schedule of the Workmen's Compensation Act of 1906. Dupuytren's contraction is well known to surgeons as a permanent flexure, more or less complete, of one or more fingers of one hand, and sometimes of both. Occasionally the condition occurs congenitally, and in several instances whole families seem to exhibit predisposition to it. D'Arcy Power, Sir William Gowers, and others attribute this affection to the presence of a rheumatic or gouty tendency; but Luff, writing in Treves's "System of Surgery," whilst concurring with these authorities in defining this condition as a localised fibrositis, denies its connexion with the gouty diathesis. Almost all authorities recognise the influence of continued and localised pressure in the production of this contraction, and this opinion is supported by Arlidge,[2] who states the condition to be common among carpenters, and to be caused by the manner in which chisels and other tools are held; it is also met with among miners, where it results from pressure and chafing by the handle of the "picks" used in dislodging coal. The influence of manual labour, with its associated constant use of the palm of the hand, has been generally recognised in the hospital cases hitherto examined. In addition to the workers above mentioned, this disease is frequently observed among bricklayers, railway porters, carmen, and waterside labourers (who handle oars and weights), as well as among bootmakers and gardeners. In the course of their inquiry the inspectors examined 139 definite cases of Dupuytren's contraction among operatives in the lace trade. In several instances this affection has incapacitated men from continuing the trade—namely, in cases where the palmar fascia is not only involved, but one or more digits are totally flexed. But in the majority of instances where the mischief does not extend beyond the palmar fascia the consequences to the workers appear to be far less serious. The conclusion arrived at by the inspectors is to the effect that this affection, which is more than usually prevalent among lace machine minders, has a direct relation to (1) the frequency with which the machine levers and wheels are manipulated, and (2) the power required to actuate the levers and wheels. The preventive measures suggested by the inspectors are in accordance with the opinions expressed in the report, and will doubtless receive attention by the employers in the lace-producing districts.

[1] Home Office Report, illustrated, pp. 26, price 6d. Wyman and Sons.

[2] Diseases of Occupations, by J. F. Arlidge, p. 553.

THE SPECIAL COURSE OF LECTURES AT THE NATIONAL HOSPITAL.

AT the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, a special course of lectures, accompanied with demonstrations, is being delivered, in accordance with the announcements in our Medical Diary. The following scheme shows how fully the study of neurology is being covered by the programme. Dr. S. A. Kinnier Wilson lectures on neuropathology. In this course the pathology of the nerve cell, nerve fibre, and neuroglia will be described and illustrated, as well as of the ependyma and of the conjunctivo-vascular tissue of the central nervous system. Pathological processes, both general and systematised, of the brain and cord will be dealt with, and, finally, the pathology of nerves and muscles will be described. Lantern demonstrations and the exhibition of specimens will illustrate the course. Dr. James Collier will deal in detail with the motor and sensory systems and with the question of coördination. The technique of testing sensibility will be described, and the localising value of various types of sensory loss exemplified. Varieties of paralysis will be illustrated, and electrical reactions will be demonstrated. Involuntary movements, ataxia, the reflexes, and the special senses, will also be discussed. Cases will be shown by way of illustration. Dr. C. M. Hinds Howell will deal with the development of the nervous system and with the neuron theory. The afferent paths and efferent paths will be described and illustrated. The anatomy and physiology of the cerebellum will be treated of specially, as well as of the vestibular system. The histology of the cerebral cortex will also be described.

THE Departmental Committee on the Public Veterinary Services, of which Sir Alfred Hopkinson, K.C., is chairman, held its first meetings on Oct. 18th and 19th at Winchester House, 21, St. James's-square, all the members being present. Witnesses representing the Colonial Office, India Office, the Army Veterinary Service, the Royal Veterinary College, London, and the Royal Veterinary College of Ireland, Dublin, attended and gave evidence before the Committee.

A SPECIAL meeting of the Council of the Royal College of Surgeons of England was held on Thursday, Oct. 17th, the President, Sir Rickman J. Godlee, being in the chair. It was called for the purpose of electing a Vice-President in the place of the late Mr. Clinton T. Dent. Mr. Edmund Owen was elected.

To the important meeting held at the Mansion House on Wednesday, Oct. 23rd, in support of the Lister Memorial Fund we shall refer in detail next week.

A LETTER has been received by the Medical Society of London from Professor Theodore Kocher, in reply to an address of congratulation from the society on the occasion of the celebration of his 40 years' professorship in the University of Berne. Professor Kocher, in thanking the President and Fellows, points out that their society was one of the first to recognise the importance of his publication on the thyroid gland and to confer upon him honorary fellowship.

MEDICINE AND THE LAW.

Witnesses' Fees at Inquests to Medical Officers of Institutions.

AT a recent inquest held at the Southwark coroner's court a medical witness from Guy's Hospital, Mr. E. G. Schlesinger, called attention again to the unjust effect of Section 22 of the Coroners Act, 1887, in depriving medical officers of voluntary hospitals and other institutions of the remuneration to which they would otherwise be entitled when called as witnesses at inquests. The coroner sympathised, but pointed out that he was powerless in the matter, and the jury, who, it was suggested, might make a recommendation on the subject, declined to do so, the foreman being apparently influenced in his view on the subject by the saving to the ratepayers effected through medical evidence being obtainable for nothing in the class of cases referred to. The complaint made is one the obvious justice of which renders it practically certain that attention will be given to it whenever the Legislature finds time to replace the Coroners Act, 1887, by a statute suitable to modern requirements. Apart, however, from such advantage as may be derived from keeping the subject before the public, the recommendation of a coroner's jury would hardly have taken the matter beyond the point which it has reached already. A good deal of evidence on this subject was given before the departmental committee on the law relating to coroners which sat in 1909, and issued its report on the last day of that year. Among others, Mr. Brooke Little, in the course of his lucid explanation of the existing law, indicated the probable line of argument which led to the adoption of the provision referred to, and drew attention to the ambiguous wording used. Mr. Bateman gave statistics showing the effect of that ambiguity, mentioning among other points that about one-third of the coroners apply the section so as to deprive medical witnesses from workhouses and workhouse infirmaries of their fees, while the remaining two-thirds do not. The committee in their report were emphatic in condemning an injustice of which they said, "We have been unable to obtain from any one who has appeared before us a defence of this provision on its merits." In the Bill to amend the law relating to coroners, introduced in the House of Commons by Sir William Collins in 1910, Clause XI. proposed to repeal the whole of Section 22 of the Act of 1887 and to assign the fees of ordinary medical witnesses at inquests to the Home Secretary to deal with by regulation. This probably is the course that will be adopted whenever the needed alteration of the law takes place, for, as has been found in this instance, the inelastic nature of an Act of Parliament and the difficulty of getting it amended prolong undesirable conditions which might otherwise be easily remedied. A Home Secretary making such regulations would not be likely to ignore the committee's report or the evidence on which it was based.

Pharmacists and the Shops Act.

Several defects of the Shops Act, in its application to the practice of pharmacy, were pointed out in THE LANCET recently,[1] and another has recently been revealed at the hearing of summonses against pharmacists who have failed to comply with the interpretations placed on the Act by various local authorities. Chemists' shops need not be closed on the half-holiday unless two-thirds of the pharmacists in the district petition the local authority to make a closing order, and when the order is made customers may be supplied with anything required in the case of illness. But when no closing order is made pharmacists are required to display a notice on the day of the local holiday to the effect that the shop is closed except for the sale of "medicines and medical and surgical appliances." The difficulty is that there is no statutory definition of these terms in the Act, and it is left to the pharmacist to use his discretion. The pharmacists against whom proceedings have been taken sold on the holiday such articles as coal-tar soap, tooth powder, and nail-brushes, and the question the magistrates had to decide was whether these articles fell within the exemption. In one case medical witnesses who were called by the defence expressed the opinion that the soap and the tooth powder were "medicines," and the magistrates, upholding this view, dismissed the summons. The seller of a nail-brush and another pharmacist who sold a tablet of soap on the half-holiday were not so fortunate, and had to pay fines. Until some definite rule is laid down for the guidance of pharmacists, paltry cases of this kind are likely to recur periodically, and the lot of pharmacists, who already have plenty of rules to observe, will not be made happier by the visits of his new client, the inspector under the Shops Act.

The Sale of Weak Solutions of Carbolic Acid.

Liquid preparations sold as "carbolic, or carbolic acid, or carbolic substitutes, or carbolic disinfectant," containing not more than 3 per cent. of phenols have been prescribed by an Order in Council—which takes effect on May 1st, 1913—as substances to which Section 5 of the Poisons and Pharmacy Act applies. On and after that date these preparations must not be sold by retail except in bottles distinguishable by touch from ordinary bottles, and unless the bottles are distinctly labelled with the word "Poisonous," the words "Not to be taken," the name of the substance, and the name and address of the seller. The substances to which these regulations previously applied were sulphuric acid, nitric acid, hydrochloric acid, and liquid preparations of ammonia containing more than 5 per cent. by weight of free ammonia and (as to the labels) the soluble salts of oxalic acid.

An Illegal Operation.

At the recent sessions of the Central Criminal Court C. E. Turner, a medical practitioner, was convicted, together with a clerk, named Wood, of using an instrument upon a young woman with intent to procure her miscarriage. According to the prosecution Turner performed an illegal operation in his surgery, to which the girl had been brought for that purpose by the other prisoner. For the defence it was alleged that only an examination had been made, and medical evidence was called in support of this contention. Upon a verdict of guilty being found, the prisoner Turner was sentenced by Mr. Justice Horridge to six months' imprisonment with hard labour, and Wood, who had admitted the charge and who was stated to be about to marry the girl, to two months' imprisonment in the second division.

THE ELECTRICAL AND RADIO-THERAPEUTIC DEPARTMENT OF THE CANCER HOSPITAL, FULHAM-ROAD, S.W.

THE new building and its equipment, which the governors of the Cancer Hospital have provided for the expansion of the work in electrical and radio-therapeutic methods of treatment, are worth a visit from any medical man.

The building, which is of red brick, has been erected on a site along the eastern boundary of the grounds of the hospital, where it replaces some very old houses, collectively known as "the cottage." These were used for the reception of incurable and advanced cases of malignant disease in male patients; and their demolition cannot be regretted, for they were the weak spot in the otherwise well-appointed wards of the institution. Westwards the new building overlooks the lawn tennis court and the garden; an excellent light is thus secured, since there are no buildings in this direction for a considerable distance. The main entrance is also on this western front of the building, and opens direct on to a square waiting hall for patients, from which a staircase ascends to the first floor. A terrazzo floor and some excellent large cupboards are features of this hall. To the left of the entrance are domestic offices and a stairway down to the boiler-room in the basement, whence the whole building is warmed by hot-water pipes.

On the other side of the hall one enters first the director's

[1] THE LANCET, June 22nd, 1912, p. 1701.

consulting room, well equipped with desk, telephone, lamps for physical examinations, and with a shutter by which absolute darkness can be secured. In a safe let into the wall 250 milligrammes of radium are kept, value at present prices about £4000. Alongside this room is a patient's dressing room. Passing this, the radiographic room is entered, spaciously planned and fully equipped. In a protected cabinet in the centre of the room radiographs can be taken with 1/85 second exposure; such rapid work is especially useful in the radiography of the chest. Here also is that marvel of German ingenuity, the Rieder screening stand. The big X ray couch in this room is, it is pleasing to add, not of foreign design; for it has been constructed in England to special plans suggested by Dr. Knox, director of the department, and it represents the last word in efficiency. Notwithstanding the large size, special and intricate features, and novel appointments of this couch, its cost has been no more than £57.

Beyond the radiographic room are two smaller rooms: a dark room to the left and a room for emanation work to the right. The former is exceptionally well ventilated and well equipped for its purpose, and much thought has evidently been expended upon its design and construction. It is defended by a double doorway, so that workers can leave or enter without any risk of spoiling negatives in process of development. The emanation room is in charge of Mr. C. E. S. Phillips, physicist to the department, and its equipment is on the very latest and most approved models. Twenty-five milligrammes of radium bromide are kept in watery solution, and by a double-acting pump of special design the emanations can be collected as required for use. Under Mr. Phillips's charge there is also a physical laboratory, housed at the opposite side of the hospital grounds in the basement of the Research Institute. As this laboratory has only been fitted up for use within the last few days, and as it is so intimately connected with the work of the emanation department, it merits a brief reference here. The reason for separating it so far from the actual emanation room is to secure the certainty of avoidance of contamination by emanations. In fact, the greatest care has been taken to ensure that external influences of no sort shall vitiate the results obtained. Electroscopes, an electrometer, and other machines for measuring radio-activity are kept here; and the whole of the apparatus and fittings are, as in the main electrical buildings, of the best and most up-to-date patterns. In a smaller room adjoining the laboratory is a Leitz microphotographic outfit.

Returning to the new building, and ascending to the first floor, we find a large landing which can be used as an extra waiting-room. Here also is a passage through to the hospital itself, along which patients from the wards can be brought direct to Dr. Knox's department. Next we enter a large room divided into cubicles equipped with couches and with apparatus for the application of galvanism or faradism to the patients. Some of these cubicles are also adapted for certain special purposes. One of them can be turned into a photographic studio. One is equipped for carbonic acid snow treatment. One is provided with a diathermy outfit for electrical coagulation, cauterisation, &c. Like other specialists in this field of therapeutics, Dr. Knox is confident that this application of the high-frequency current will be highly appreciated by surgeons when they become better acquainted with its great possibilities. In passing, it may be noted that this is another German invention, and that it is only about a year old. Another cubicle contains the ordinary high-frequency machine, which the director still has faith in for properly selected cases.

At the end of this large *salon* are three protected cabinets for X ray work, all thoroughly ventilated. There is a special air-cooling plant, the use of which prolongs greatly the life of the X ray tubes used. A mercury vapour lamp for lupus is also part of the equipment. Cupboards are everywhere, and practical utility has been studied. On the second floor of the building are motors, fans, air pumps, and similar machinery for working the various outfits and engines of the two lower floors.

In many respects the planning of the various rooms has presented problems towards whose solution there is no previous experience available for guidance; and Dr. Knox has himself been the constant adviser of the architect, Mr. T. J. Pole, in the arrangement of the department, as well as the designer of much of the apparatus and all the fittings. The governors have wisely given their director a free hand, and the result has earned them much congratulation.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Huntingdonshire County Council.—Dr. C. B. Moss-Blundell, in his very thorough report, shows that he has no easy task in the county of Huntingdon; there are no school nurses or health visitors, the treatment of defects is not easy, and as the county is among the three with the highest illegitimate birth-rate, there is presumably a fairly high percentage of people in bad circumstances, and consequent dirt and prevalence of "minor ailments." The space devoted in the report to consideration of cleanliness suggests this, and a useful hint is given that clothing should be considered under the four headings of sufficiency, repair, cleanliness, and boots. Mental condition is divided into above average, average, below average, very backward, and mentally deficient. Six deaf and dumb children are provided for in special schools at a cost of £168 per annum, a sum sufficient, as the report says, "to provide spectacles for all the children with defective sight in the county," leaving a handsome balance still in hand. We wonder whether some different arrangement could not be made. In Huntingdonshire, it appears, one may follow the evolution of the school desk from the screwed-down desk for six with a form and no backrest up to the individual chair and table. It is to be hoped that it will not long be possible to make these antiquarian researches. An amusing instance is given of the difficulties in the county where the water-supply to schools is often very unsatisfactory. "It was suggested that a head mistress should make a communication to the parent of a certain scholar." But as the head mistress was dependent on the goodwill of the parent for permission to use a well she did not dare risk any unpleasantness! Dr. Moss-Blundell suggests that a dental clinic in a country district is a difficulty, but there is no insurmountable obstacle to a travelling clinic caravan.

Borough of Jarrow.—During the year 1911 2592 children of the groups entrants, leavers, 10-year-olds, and "new comers" from other districts not having medical record schedules were examined, 2759 reinspections of defective children carried out, 519 "specials" examined, and 17 defectives and epileptics examined in conjunction with the Poor-law. Cases of defective vision have been examined with the ophthalmoscope, if necessary at the town-hall, where a special dark-room has been fitted up; 26 children during the year were supplied with spectacles by the authority; and Dr. D. Henderson Weir suggests that this provision should be made more freely, accepting information from the mother and verifying it "by other means than keeping the father from his work" in attendance at the offices. With regard to nose and throat affections, the percentage of cases attended to is going up: in 1909 it was 66·93 per cent., in 1910 76·8 per cent., and in 1911 93·4 per cent., probably due to the fact that some cases have been "under special consideration" and that the improved condition has formed a good object lesson. For treatment in general a school clinic is suggested, with the Palmer Memorial Hospital as its base, this hospital being largely kept up by subscriptions from the workmen of the town. A number of children are employed for wages out of school hours, the average hours per week worked by boys ranging from 20·3 at one school to 10·5 at another. "One of the saddest sights in Jarrow, and a fairly common one," we are told, "is to see a boy from 12 to 14 years old staggering at nearly midnight on Saturday under a heavy load of groceries or a butcher's basket laden with meat." One girl earns 6*d.* a week for 12 hours (two daily) at cleaning up and running messages. The general rate seems to be 1*s.* 6*d.* for four hours on Friday night and 12 to 14 hours on Saturday. As coupled with this the school hours are half an hour longer than usual—9 to 12 in the morning and 1.30 to 4.30 in the afternoon—it would appear that the children are rather driven. And more than half of the children examined live in houses of one, two, or three rooms, and under conditions

not conducive to a sturdy adolescence. At one school small thread-worms (oxyuris vermicularis) were found in wash-basins and in water-closets. The soil pipe and drain were also infected, the surrounding woodwork impregnated with ova, and for a distance of 4 feet from the drain the worm and its ova were found in the earth. Considering the important part which may be played by this worm in conditions of poor nutrition and in cases of incontinence, it would be interesting to know how often school water-closets and lavatories are sources of infection.

Tottenham Town Council.—Dr. J. F. Butler-Hogan records the results of the inspection of 4014 entrants and leavers, 445 between 8 and 9 years, and 1778 children were specially examined with respect to fitness to attend school and 2102 for defects noticed by the teachers. There were 276 exclusions for ringworm, and it is suggested that Sunday schools are probably responsible for the spread of infection. At one school a playground class was held from the end of the summer holiday until the end of October. The benefit to the health of the children who were in this class was very marked, and the attendance during the whole time was a record one. The children, we learn, were as bright at the end of a school session as at the beginning. The extension of this procedure is urged. Eight cases of phthisis sent away by the Invalid Children's Aid Association in 1909 and 1910 returned cured after six to 18 months' treatment, and were examined periodically during 1911, all remaining in a satisfactory condition. There were two cases of advanced tuberculous disease of the ankle discovered at inspection who had never been taken to any medical man. A school clinic for nose, throat, ear, and skin cases is working this year (1912).

Borough of Bootle.—Dealing with the question of treatment of defects, Dr. W. Allen Daley shows that of 1288 cases of defects 70·3 per cent. received some treatment, 21·3 per cent. no treatment, and in about 8·4 per cent. no reports were obtained. Discussing the possibility of a clinic, vision, nose and throat, discharging ear, ringworm and other skin, and dental cases are noted for treatment before others. 4·2 per cent. children are said to be sub-normal in nutrition, and visits have been paid to the homes of as many as possible of the ill-nourished children who came to the notice of the school medical officer. The necessity for separate numbered and reserved pegs in cloak-rooms is insisted upon if the spread of vermin is to be prevented. The usual paradox is noted: the children at the day industrial school have baths and ample facilities for cleanliness provided, regularly and fully utilised, and hence are in a very clean condition. A school nurse has been appointed for 1912; and two lady health visitors, appointed for the purpose of reducing infantile mortality and supervising midwives, visit homes in cases of minor infectious diseases and of uncleanliness.

City and County of the City of Exeter.—The population of Exeter at the last Census was 48,660. There are 21 schools with accommodation for 8584 children, and the number on the register on Dec. 31st, 1911, was 7380. The total number of children examined in 1911 was 2666, 74·6 per cent. parents attended, and 83 per cent. of the children found defective have received treatment. An inspection clinic is already established in Exeter, but as the facilities for treatment are exceptionally good a school treatment clinic is not considered necessary. It is not clear, however, that teeth (although there is a dental hospital) or ringworm cases are quite adequately dealt with. But Exeter shows, what is already evident in certain other comparatively small and compact education areas, that a small area can deal with the problem of treatment more effectively than a larger area, probably because there is a closer touch between all the people and agencies concerned. It is regretted that at the examination of children from Poor-law and other institutions a representative of the institution does not attend. The number and importance of the defects found do not differ materially from those in the ordinary elementary school children. Cloak-room accommodation in some of the schools is inadequate and favours the spread of pediculosis and ringworm.

Hertfordshire County Council.—Great attention is paid by Mr. F. E. Fremantle to various questions of organisation, and a summary of recommendations at the end of the report is a great convenience. One of these is: "That in all new schools the teachers' room be built so as to give a length of 21 feet, good light, and as much quiet as possible, for the purpose of medical inspection." It is pointed out that the usual inspection is valueless as a test for diseases of heart and lungs when it takes place in the same room as that in which classes are being held. The actual inspections are performed by medical inspectors, who are for the most part also medical officers of health for their districts, and these gentlemen are assisted at their discretion by partners, assistants, and in two cases dispenser and secretary respectively. The plan works well and secures effective coördination of school and public health work. The school nursing is carried out for the most part by the County Nursing Association, which was subsidised to the extent of £200 by the county council as from April 1st, 1911. The nurses attended 239 inspections, and paid 913 visits to schools and 4794 visits to parents and children at home. School clinics are described as "foreign abominations," but a useful plan is suggested for the use of an old London horse-bus as a travelling dental "caravan" (we presume this is a native institution instead of a foreign abomination), the cost to be £500 for the first year and £400 in after years, including a whole-time dentist at £300 a year; the dentist to spend a week or less in each village. In regard to other treatment, the view is expressed that the Poor-law guardians should undertake the treatment of defects, but until medical treatment is removed from Poor-law control and the contagion of pauperism this is probably impracticable. The amount spent on medical inspection is given for 1910–11 and 1911–12, in the latter year amounting to £2515 12*s.* 6*d.*, a sum which is about one-eightieth of the total cost of elementary education. Mr. Fremantle considers that the system of employing part medical officers of health and part school doctors secures "far more attention to the school health than the system of employing whole-time visiting inspectors."

Gloucestershire County Council.—No special arrangements are made for the treatment of defects in Gloucestershire, and while 80 per cent. of general cases have been more or less satisfactorily treated, 56·2 per cent. of vision cases, 62·9 per cent. of ear cases, and 66·3 per cent. of nose and throat are not such satisfactory figures. Open-air schools are advocated by Dr. J. Middleton Martin, and do not appear to have been established, but considerable space is devoted to the discussion of the prevention of consumption. It is pointed out that if children in danger of infection by tuberculosis are recognised early "the actual diagnosis is a secondary matter, if the danger of these cases is realised." Comparing urban and rural children, one of the medical inspectors, Dr. M. Deborah Hancock, observes that the standard of children in rural districts does not seem much better than, if as good as, that of children in the more populous districts nearer the towns. In most cases bad nutrition appears to be due to the general delicate condition of the child. An experimental dental clinic has been established in connexion with one small school, and the appointment of a full-time dentist is suggested. At four schools, cases with ringworm of the scalp over 7 years old have been allowed to attend while carrying out directions as to cleanliness and application of ointment and wearing a clean linen cap; no other children have been infected. A novel feature of the work lies in the employment of one of the three school nurses as attendance officer for a district of 25,893 acres, including 10 schools with 1027 children on the registers. The experience of the first four months (the nurse began work in September, 1911) is said to be distinctly encouraging.

County Borough of Bury.—Dr. G. Granville Buckley reports on the inspection of 1740 children, but although in a town only 38 per cent. of the parents of younger children attended at the inspections and 25 per cent. of parents of the leavers. A school nurse is employed, but no special arrangements for treatment are made, and as existing facilities are only the private medical practitioner, the Bury Infirmary, and the hospitals in Manchester, the treatment is unsatisfactory. Only 6·45 per cent. dental defects are treated, and only those with four or more carious teeth are noted for treatment. Only 33·93 vision, 25 per cent. phthisis and other tuberculous disease, and 56 per cent. heart cases are treated. This last percentage is the highest of all for cases treated. Some other arrangement seems badly wanted, as does some organisation, such as that of children's care-committees, to secure the greater coöperation of the parents.

City of Cardiff.—There are 36 public elementary schools in Cardiff with accommodation for 33,350 children and

an average attendance of 28,741 who are inspected by two school doctors assisted by school nurses. Treatment is considered in detail and attention drawn to the increase in the efficiency of preventive treatment by the coördination of school and public health functions. The sanitary authority has further established a tuberculosis dispensary, to which school children are admitted free of charge, and a cleansing station is in course of erection. Sir George Newman's report is extensively quoted in regard to the school clinic. Arrangements are in force with three ophthalmic surgeons for treatment at 7*s.* a head for examination and prescription, and opticians supply spherical lenses at 2*s.* 6*d.* and cylindrical at 4*s.* 6*d.* Seven dentists have also agreed to attend school children at a reduced scale of fees. The provision of X ray treatment for ringworm is under consideration, and an open-air school is urged, an estimate of the cost being given at £448 17*s.* 11*d.* net per annum for 82 children in average attendance. With regard to nutrition, it is stated that "No exact meaning can be attached to figures under this heading." A precisely measurable criterion of nutrition still appears to elude the efforts of many of us. Dr. Edward Walford's whole report is broadly conceived and puts the problems in true perspective, and is consequently not only more interesting reading but more definitely useful than a bald recital of percentages.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 95 largest English towns, with an aggregate population estimated at 17,639,881 persons at the middle of this year, 8304 births and 4800 deaths were registered during the week ending Oct. 19th. The annual rate of mortality in these towns, which had steadily increased from 11·0 to 13·7 per 1000 in the five preceding weeks, further rose to 14·2 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these towns averaged 13·4 per 1000, against 15·2 per 1000 in London during the same period. No death was recorded last week in the borough of Northampton, while in the other towns the death-rates ranged from 4·9 in Oxford, 5·8 in Gillingham, 6·3 in Ilford, and 6·8 in Grimsby, to 17·9 in Sunderland, 18·2 in Liverpool, 19·1 in Bootle, 20·1 in Middlesborough, and 20·3 in Dudley.

The 4800 deaths from all causes were 171 in excess of the number in the previous week, and included 426 which were referred to the principal epidemic diseases, against numbers rising from 310 to 394 in the three preceding weeks. Of these 426 deaths, 169 resulted from measles, 121 from infantile diarrhœal diseases, 49 from diphtheria, 36 from whooping-cough, 29 from scarlet fever, and 22 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 1·3 per 1000, against 1·0 and 1·2 in the two preceding weeks. The deaths attributed to measles, which had been 67, 90, and 139 in the three preceding weeks, further rose to 169 last week, and caused the highest annual death-rates of 1·2 in Birmingham, 1·3 in Liverpool and in Swansea, 1·5 in Middlesbrough, 1·6 in Birkenhead and in West Hartlepool, 1·7 in Wigan and in Rhondda, 2·1 in West Ham, 2·6 in Tynemouth, and 2·7 in Lincoln. The deaths of infants under 2 years of age referred to diarrhœa and enteritis, which had been 134, 153, and 129 in the three preceding weeks, further declined to 121 last week, and included 46 in London and its suburban districts, 15 in Liverpool, 5 in Stoke-on-Trent, 5 in Birmingham, 4 in Manchester, and 4 in Leeds. The fatal cases of diphtheria, which had been 41, 43, and 56 in the three preceding weeks, fell to 49 last week; 12 deaths occurred in London, 6 in Portsmouth, 4 in Birmingham, 3 in Stoke-on-Trent, and 3 in Manchester. The deaths attributed to whooping-cough, which had been 44, 29, and 33 in the three preceding weeks, were 36 last week; of this number, 14 were registered in London, 5 in Liverpool, and 2 each in West Ham, East Ham, Salford, and Burnley. The deaths referred to scarlet fever, which had been 17, 17, and 26 in the three preceding weeks, further rose to 29 last week, and included 8 in London, 5 in Birmingham, 2 in Portsmouth, and 2 in Liverpool. The fatal cases of enteric fever, which had been 7, 20, and 11 in the three preceding weeks, rose to 22 last week; 2 deaths were recorded in London, in West Ham, in Manchester, and in Bradford.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily risen from 1512 to 2095 in the eight preceding weeks, had further increased to 2217 on Saturday last; 345 new cases of this disease were admitted to these institutions during the week, against 305, 317, and 322 in the three preceding weeks. These hospitals also contained on Saturday last 940 cases of diphtheria, 486 of measles, 267 of whooping-cough, and 53 of enteric fever, but not one of small-pox. The 1454 deaths from all causes in London were 111 in excess of the number in the previous week, and were equal to an annual rate of 16·8 per 1000. The deaths referred to diseases of the respiratory system, which had steadily risen from 103 to 282 in the five preceding weeks, further rose to 327 in the week under notice, and were 99 in excess of the number recorded in the corresponding week of last year.

Of the 4800 deaths from all causes in the 95 towns last week, 197 resulted from different forms of violence, and 433 were the subject of coroners' inquests. The causes of 47, or 1·0 per cent., of the deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, Nottingham, Portsmouth, and in 66 other smaller towns. The 47 uncertified causes of death last week included 11 in Birmingham, 5 in Liverpool, 5 in South Shields, and 3 in Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons at the middle of this year, 1110 births and 568 deaths were registered during the week ending Saturday, Oct. 19th. The annual rate of mortality in these towns, which had been 13·0, 12·2, and 14·1 per 1000 in the three preceding weeks, declined to 13·6 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual rate of mortality in these Scotch towns averaged 13·3 per 1000, against 13·4 per 1000 in the 95 large English towns. Among the several Scotch towns the annual death-rates last week ranged from 6·5 in Kirkcaldy, 6·9 in Govan, and 8·4 in Partick, to 16·8 in Leith, 17·2 in Hamilton, and 18·9 in Dundee.

The 568 deaths from all causes were 23 fewer than the number in the previous week, and included 32 which were referred to the principal epidemic diseases, against numbers rising from 29 to 59 in the three preceding weeks. Of these 32 deaths, 11 resulted from diphtheria, 10 from infantile diarrhœal diseases, 6 from whooping-cough, 2 from scarlet fever, 2 from enteric fever, and 1 from measles, but not one from small-pox. These 32 deaths from the principal epidemic diseases were equal to an annual death-rate of 0·8 per 1000, against 1·3 in the 95 large English towns. The deaths attributed to diphtheria, which had increased from 5 to 10 in the four preceding weeks, were 11 last week, and included 6 in Glasgow, 2 in Dundee, and 2 in Paisley. The deaths of infants under 2 years of age referred to diarrhœa and enteritis, which had been 12, 15, and 28 in the three preceding weeks, declined to 10 last week; of this number, 4 were registered in Glasgow and 4 in Dundee. The fatal cases of whooping-cough, which had been 3, 4, and 11 in the three preceding weeks, fell to 6 last week, and included 2 in Partick. The 2 deaths from scarlet fever were registered in Greenock and Falkirk respectively; the 2 deaths referred to enteric fever in Aberdeen, and the fatal case of measles in Glasgow.

The deaths referred to diseases of the respiratory organs in the 18 Scotch towns, which had been 68, 62, and 80 in the three preceding weeks, further rose to 102 last week; 23 deaths were attributed to different forms of violence, against numbers rising from 16 to 34 in the three previous weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an aggregate population estimated at 1,154,150 persons at the middle of this year, 600 births and 365 deaths were registered during the week ending Oct. 19th. The annual rate of mortality in these towns, which had been 14·5, 15·5, and

17·6 per 1000 in the three preceding weeks, declined to 16·5 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these Irish towns averaged 16·5 per 1000; in the 95 large English towns the corresponding death-rate was equal to 13·4, while in the 18 Scotch towns it did not exceed 13·3 per 1000. The annual death-rate in the several Irish towns last week was equal to 19·8 in Dublin (against 16·8 in London), 14·2 in Belfast, 16·3 in Cork, 6·4 in Londonderry, 35·2 in Limerick, and 17·1 in Waterford, while in the remaining 16 smaller towns the mean death-rate did not exceed 12·3 per 1000.

The 365 deaths from all causes in the 22 Irish towns were 24 fewer than the number in the previous week, and included 43 which were referred to the principal epidemic diseases, against numbers rising from 26 to 45 in the three preceding weeks; of these 43 deaths, 20 resulted from measles, 14 from diarrhœal diseases, 3 from enteric fever, 3 from whooping-cough, 2 from diphtheria, and 1 from scarlet fever, but not one from small-pox. These 43 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9 per 1000; the death-rate from these diseases last week in the 95 large English towns was equal to 1·3, while in the 18 Scotch towns it did not exceed 0·8 per 1000. The deaths attributed to measles, which had risen from 1 to 20 in the six preceding weeks, were again 20 last week, and comprised 10 in Limerick, 8 in Belfast, and 2 in Dublin. The deaths referred to diarrhœal diseases, which had been 11, 13, and 13 in the three preceding weeks, were 14 last week, all of which related to infants under 2 years of age; 6 deaths were registered in Dublin, 3 in Belfast, and 2 in Waterford. Of the 3 fatal cases of enteric fever last week, which were slightly in excess of recent weekly numbers, 2 occurred in Dublin and 1 in Newry. The 3 deaths attributed to whooping cough last week were recorded in Dublin, Limerick, and Newry respectively. The 2 fatal cases of diphtheria were registered in Dublin, and that of scarlet fever in Belfast.

The deaths referred to diseases of the respiratory system in the 22 Irish towns, which had been 53, 49, and 70 in the three preceding weeks, rose to 76 in the week under notice. Of the 365 deaths from all causes, 105, or 29 per cent., occurred in public institutions, and 7 resulted from different forms of violence. The causes of 10, or 2·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 large English towns the proportion of uncertified causes of death last week did not exceed 1·0 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Fleet-Surgeons have been promoted to the rank of Deputy Surgeon-General in His Majesty's Fleet:—James Lawrence Smith, M.V.O. (dated July 22nd, 1912), and Alexander Gascoigne Wildey (dated Oct. 6th, 1912).

ROYAL ARMY MEDICAL CORPS.

Colonel H. O. Trevor has taken up duty as Assistant Director of Medical Services in the Cork District, in succession to Colonel J. R. Dodd. Colonel H. S. McGill has been granted leave of absence from India on medical certificate.

Lieutenant-Colonel B. J. Inniss has embarked for a tour of service at Mauritius. Lieutenant-Colonel R. J. Copeland has been appointed for duty in the Northern Command. Lieutenant-Colonel T. Daly has been selected for the increased rate of pay under Article 317 of the Royal Warrant. Lieutenant-Colonel H. M. Sloggett has arrived home on leave of absence from Malta. Lieutenant-Colonel W. A. Morris has been selected to hold Medical Charge at Scarborough, in succession to Major H. V. Dillon. Lieutenant-Colonel J. Donaldson has been transferred from the command of the Station Hospital at Rawal Pindi Cantonment to Murree Cantonment as Senior Medical Officer. Lieutenant-Colonel J. W. Bullen has taken up duty at the Station Hospital, Agra Cantonment. Lieutenant-Colonel A. J. Luther has embarked for a tour of service in South Africa. Lieutenant-Colonel R. J. Windle, late physician and surgeon at the Royal Hospital, Kilmainham, Dublin, has been placed under orders for a tour of service in India, and will be posted to the Sixth (Poona) Division of the Southern Army.

Major T. B. Jones has been appointed to hold charge of the Military Hospital at Pembroke Dock and Senior Medical Officer of the Western Coast Defences. An exchange on the roster has been approved between Major L. F. F. Winslow, in charge of the Military Hospital at Sheffield, and Major A. M. MacLaughlin, sanitary officer to the Scottish Command; the latter officer will embark for a tour of service with the Southern Army in India. Major W. E. Hudleston has been transferred from Tidworth, Salisbury Plain, to Portsmouth District for employment in connexion with recruiting duties. Major W. J. Taylor has been appointed to the Military Hospital at Colchester, pending embarkation for service abroad. Major A. O. B. Wroughton has been appointed to hold charge of the Military Hospital at Maidstone. Major C. H. Furnivall has taken up the appointment of Civil Surgeon at Ziarat. Major H. H. Norman has arrived home on leave of absence from Shwebo. Major A. D. Jameson has been appointed Specialist in Dermatology and Venereal Diseases to the First (Peshawar) Division of the Northern Army in India. Major J. C. B. Statham has embarked for a tour of service on the West Coast of Africa.

Captain P. Dwyer has been selected for appointment as Specialist in Otology at the Royal Infirmary, Phœnix Park, Dublin. Captain A. E. S. Irvine has arrived home on leave of absence from Simonstown, South Africa. Captain P. C. T. Davy has been appointed Senior Medical Officer on board the transport s.s. *Dongola*, which left Karachi for Southampton on Oct. 18th, and Captain P. Sampson and Captain H. H. Blake have been appointed for general duty on the same transport. Captain W. J. E. Bell has been transferred from the Military Hospital at Gosport to Cosham for duty. Captain E. J. Kavanagh has joined the Station Hospital, Multan, for duty. Captain C. W. Holden has arrived home for duty from North China, tour expired. Captain R. S. Smyth has arrived home on leave of absence from Ambala Cantonment. Captain C. Scaife has been appointed a Specialist in the Prevention of Disease and placed in charge of the Headquarters Brigade Laboratory at Belgaum. Captain A. Hendry has been transferred from the Fifth (Mhow) Division to the Bombay Brigade and posted for duty to the Station Hospital at Colaba. Captain J. F. Grant has taken up duty at the Military Hospital, Maymyo, Burma, on transfer from Bhamo Cantonment. Captain F. Casement has arrived home on leave of absence from the Eighth (Lucknow) Division. Captain G. E. Cathcart has been selected for appointment as Specialist in Physical Training to the Aldershot Command. Captain H. V. Bagshawe has embarked for a tour of service in Egypt. Captain A. L. Foster has been transferred from the Military Hospital at Rawal Pindi to Kalabagh, Murree Hill District. Captain J. S. McCombe has taken up duty at the Military Hospital, Secunderabad, on transfer from Malapuram. Captain R. G. S. Gregg has arrived home on leave of absence from Lucknow Cantonment. Captain P. A. Lloyd-Jones has been selected for appointment as Specialist in Ophthalmology to the Cambridge Hospital at Aldershot, in succession to Major F. M. Mangin, who has been placed under orders for a tour of service in India with the Northern Army.

Lieutenant C. M. Nichol, lately holding charge of the Military Hospital and medical officer of D Squadron, 16th (Queen's) Lancers, at Weedon, has joined for duty at Cairo. Lieutenant W. A. Frost has been appointed to Tregantle. Lieutenant H. J. G. Wells has been transferred from the Military Hospital at Kinsale to Cork for general duty.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of the undermentioned officers:—Colonel William Alfred Corkery (dated August 25th, 1912) and Lieutenant-Colonel William Ainley Sykes, D.S.O. (dated July 18th, 1912).

Colonel R. W. S. Lyons has been selected for appointment as Assistant Director of Medical Services to the Third (Lahore) Division of the Northern Army in India, in succession to Colonel W. A. Corkery, retired.

Lieutenant-Colonel W. E. Jennings has arrived home on leave of absence from India. Lieutenant-Colonel J. R. Roberts, C.I.E., has been appointed Surgeon on the Personal Staff of the Viceroy of the East Indies, in succession to Lieutenant-Colonel F. O'Kinealy, who has resigned. Lieutenant-Colonel J. J. Pratt, civil surgeon in the United

Provinces of Agra and Oudh, has been granted six weeks' extension of his leave of absence on medical certificate.

The services of Major C. Weinman have been placed at the disposal of the Bengal Government for appointment as Civil Surgeon at Dinajpur. Major M. Dick has arrived home on leave of absence from India. Major W. H. Tucker has been selected for appointment as Physician to the Durbar at Travancore, Madras Presidency. Major G. King has been appointed to officiate as Civil Surgeon at Manbhum. Major W. C. H. Forster, professor of pathology in the Government Medical College, Lahore, has taken up duty as Officiating Deputy Sanitary Commissioner in the Punjab, relieving Captain C. A. Gill, granted leave of absence.

Captain W. Overbeck-Wright, at present officiating as Superintendent of the lunatic asylum at Agra, has been appointed substantive *sub pro tempore* in that appointment. Captain A. J. H. Russell has been appointed to the Madras Presidency for temporary civil employment. Captain H. H. Broome has arrived home on leave of absence from India. Captain W. T. Finlayson has been appointed Superintendent of the Borstal Central Jail at Lahore. Captain M. A. Nicholson has been selected for appointment as a Specialist in the Prevention of Disease, and has been placed in charge of the Bacteriological Research Laboratory at the headquarters of the Bannu Brigade. Captain F. N. Stewart has been appointed to the Medical Charge of the 74th Regiment of Punjabis, in succession to Captain S. G. S. Houghton, who has been appointed to the Medical Charge of the 38th Regiment of Dogras. Captain D. D. Kamat has been selected for appointment as Medical Officer of the 8th Regiment of Rajputs, in succession to Captain N. S. Dutton. The appointment of Captain J. F. James as officiating Civil Surgeon at Goalpara has been cancelled. Captain E. J. C. McDonald, supernumerary medical officer at Dibrugarh, has been appointed to hold Medical Charge of the Lakhimpur Military Police outpost at Rotung. Captain E. T. Harris has taken over the Executive and Medical Charge of the District Jail at Mogok. Captain K. S. Thakur has been selected for appointment as Specialist in Radiography and Electrical Science to the Third (Lahore) Division of the Northern Army in India.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in their rank:—Robert A. Greenwood, Philip N. Button, William F. McLean, Robert M. Beath, Thomas Walker, William St. L. Dowse, William McN. Walker, William McK. H. McCullagh, Samuel R. Armstrong, Edward A. Wilson, Treffry O. Thompson, Gerald F. V. Leary, and John Campbell.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd Scottish General Hospital, Royal Army Medical Corps: Lieutenant-Colonel (Lieutenant-Colonel, retired, Indian Medical Service) Frank W. Thomson, on completion of his period of service in command, is retired, and is granted permission to retain his rank and to wear the prescribed uniform (dated Oct. 19th, 1912). Lieutenant-Colonel Sir Joseph Fayrer, Bart., Reserve of Officers, to be Lieutenant-Colonel (dated Oct. 19th, 1912). 3rd Scottish General Hospital, Royal Army Medical Corps: Lieutenant-Colonel Sir Hector C. Cameron to resign his commission (dated Oct. 19th, 1912).

1st London (City of London) Field Ambulance, Royal Army Medical Corps: Lieutenant Arthur D. J. B. Williams is seconded, under the conditions of Paragraph 112 of the Territorial Force Regulations, for service under the Colonial Office (dated May 1st, 1912).

Attached to Units other than Medical Units.—Captain William Doig to be Major (dated August 25th, 1912). Lieutenant Francis R. M. Heggs to be Captain (dated Sept. 1st, 1912). Lieutenant Robert Bruce to be Captain (dated Sept. 17th, 1912).

COLONIAL MEDICAL SERVICES.

West African Medical Staff.—Dr. W. M. Graham, head of the Medical Research Institute at Lagos, retires from the service on pension, and Dr. H. de C. Dillon has resigned. Dr. W. I. Taylor, medical officer, Southern Nigeria, has been promoted a Senior Medical Officer, Northern Nigeria, and Mr. D. Burrows, medical officer, Sierra Leone, a Senior Medical Officer, Southern Nigeria. The following gentlemen have been selected for appointment to the staff: Dr. E. L. Anderson and Dr. T. R. Sandeman (Southern Nigeria), and Dr. E. F. Ward (Sierra Leone).

Other Colonies and Protectorates.—Mr. E. Glenny has been selected for appointment as a Medical Officer in the Straits Settlements; Mr. W. R. W. James for appointment as a Medical Officer in the Gilbert and Ellice Islands; Dr. A. C. M. McHattie for appointment as Chief Medical Officer, Bahamas; and Dr. H. R. Neilson, Mr. A. H. Owen, and Dr. B. Spearman for appointment as Temporary Medical Officers in Uganda. Mr. C. B. Pasley and Dr. K. Simpson have been selected for appointment as Medical Officers in the Federated Malay States, and Mr. A. D. J. B. Williams for appointment as a Medical Officer in the East Africa Protectorate. Mr. H. F. Hardie has been selected for employment as Government Dental Surgeon in West Africa, and Mr. G. W. Royle for employment as Government Dental Surgeon in the Falkland Islands.

DEATHS IN THE SERVICES.

Lieutenant-Colonel Andrew Duncan, late I.M.S., at a nursing home, on Oct. 18th, aged 62. He was in medical charge of the 2nd Battalion 5th Goorkha Rifles during the Afghan War of 1878–80, being present at the action of Matun and the battle of Charasiab, where he received severe wounds (mentioned in despatches, medal and clasp). He also took part in the Hazara Expedition of 1891. Among his medical publications were the "Prevention of Disease in Tropical Campaigns" and a "Guide to Nursing in the Tropics."

THE BRITISH RED CROSS SOCIETY.

The first surgical unit raised by the British Red Cross Society, consisting of three dressers and 12 orderlies, left England for Montenegro on Oct. 20th. Surgeon-General G. D. Bourke, C.B., A.M.S., was in charge, the other surgeons being Mr. Anthony Bradford, Dr. F. Goldsmith (Australia), and Surgeon-Captain Martin-Leake, V.C. Three other units, financed by Sir Ernest Cassel, will probably leave for Turkey to-day (Friday), and arrangements are being made to send units to Greece. On Nov. 7th the Lady Mayoress will give a subscription ball at the Mansion House in aid of the British Red Cross Balkan Fund.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on Oct. 15th, Inspector-General W. H. Lloyd, R.N., in the chair, the sum of £45 was distributed among the several applicants.

ARCHIVES DE MÉDECINE ET PHARMACIE NAVALES.

In the August number appears an unusual paper on Flint Arrowheads of the Western Sahara, in the Adrar district, near Cape Blanco, by M. Jean, surgeon in the French Navy. It is interesting and well illustrated, and the author shows that this region was once inhabited by a neolithic population, with a civilisation similar to that evidenced by the remains found in Brittany. Dr. Duranton, médecin principal (Fleet-Surgeon), continues his discussion of the ventilation of the cruiser *Kléber*. In the after dynamo room he found a temperature of 136° F., so high because the fan inlet had been placed so close to a natural outlet that the fresh air was at once conveyed away, and did nothing to cool the compartment. Very similar conditions existed in the steering engine compartment, but in addition the intake for the ventilating fan was only 9 feet above it, and so situated it was in the track of the escaping hot air, consequently the fan supplied back to the compartment some of its own already used and heated air. For each of these defects Dr. Duranton prescribes a remedy that should have struck anyone acquainted with the ventilation of ships. If constructors took counsel more freely with medical officers such failures, and their expensive corrections, would be prevented. A very important paper appears on an epidemic of cholera at Toulon in November, 1911; it should be read in the original. Here we can only say that cholera appeared at Brindisi in August, 1910 (brought by some Russian gipsies), and spread to Naples, reaching Marseilles in October by way of Smyrna and Athens. Four people died at Marseilles. The epidemic then ceased for the winter. It recrudesced at Marseilles in June, 1911, and continued until Oct. 20th, having caused 466 cases and 225 deaths. As every sailor who arrived at Toulon from any infected port had his stools examined for the cholera

vibrio, and as none of the 161 examined were carriers, and as the epidemic seemed to have died out, Toulon thought itself safe; but on Nov. 14th a case developed in the *Suffren*, with cholera vibrios in his stools, and he died next day. The situation was complicated by a coincident outbreak of 40 cases of food-poisoning in the *Justice* on Nov. 15th or 16th; these were recognised not to be cholera. But other cases did occur from Nov. 14 to 21st, 18 in all, of whom 6 died. The clinical discussion of these cases appears this month; the epidemiological consideration will be completed in the next number; so we limit ourselves to the clinical aspects of this epidemic, very fully and usefully detailed as they are. Besides the 18 attacked by cholera, 129 persons were isolated, either because they had slight diarrhœa or because they were contacts; 7 had diarrhœa and 6 had vibrios in their stools. Of the 122 healthy contacts, 2 were found to be carriers, and only 2. One of the 18 was a pensioner employed in the dockyard, the other 17 belonged to ships, and a long account is given of each of these cases. Thirteen cases were severe; one was fulminant (the first). Temperature was always subnormal, and perhaps even 7° F. lower in the axilla than in the rectum. The symptoms were, as usual, diarrhœa, rice-water stools, vomiting, cramps, drying of the tissues, wrinkling of the skin, cyanosis, anuria. One man got a double parotitis on the fourteenth day and died a week later with double pneumonia. The treatment which is approved after experience of the whole epidemic is the intravenous injection of saline solution, about 1500 c.c. an hour, or an ounce a minute, during a couple of hours. The veins are very small, the blood quickly coagulates, the patient is particularly restless. Fix the arm then to a splint or the bed, make an incision in the bend of the elbow, isolate the vein, and draw it out, insert the (cannula or) needle, and pour in the saline. The fixation of the arm is the more necessary as the injection continues for two or more hours until the patient improves. It is the conviction of those who saw this epidemic through that no other treatment is to be compared with this. The cases who died had relatively small injections or the large injections were given too late, when other treatments had failed. This paper should be read. Dr. Lepeuple (surgeon in the French navy) reports a case of septicæmic plague at Saigon, where the liver was chiefly attacked, and on section the bacillus of plague was found growing throughout the vessels of that organ. All contacts were injected with Yersin's anti-plague serum. No further cases occurred and no dead rats were found on board.

Correspondence.

"Audi alteram partem."

HÆMATEMESIS DUE TO ARTERIO-SCLEROSIS OF THE GASTRIC VESSELS.

To the Editor of THE LANCET.

SIR,—In your issue of Oct. 12th you have an interesting annotation on hæmatemesis occurring as a very rare complication during the course of arterio-sclerosis.

For the past 30 years I have paid special attention to the clinical aspects of this protean form of arterial degeneration, and from the material that has passed through my hands I am convinced that a local manifestation of the disease process is far more common than is usually considered to be the case. I believe that if as searching an examination were to be made of the smaller arterial twigs as has been done with nerve tissues, abundant evidence would be forthcoming that arterio-sclerosis, commonly looked upon as being of a more or less general arterial change, will often be found as a local patchy disease affecting a very limited area.

My impression is that in at least some of the cases of fulminating pancreatic hæmorrhage it is the focal condition and the potent cause or underlying pathology. We are so accustomed to regard the affection as being a systemic disease affecting the arterioles that we are apt to overlook the fact, supported by clinical evidence, that there are many cases in which the maximum effect is largely local. We know that the cerebral, ocular, and coronary vessels are constantly affected, and we know that the cerebral and ocular arteries are prone to bleed in a very early stage; naturally hæmorrhage in either of these situations is accompanied by symptoms intensely objective, far more so than if the hæmorrhage occurred in countless other situations, where a minute bleeding would produce only symptoms trifling in character. Personally I have found great difficulty in attempting to differentiate clinically between chronic renal change of that type known as granular kidney in its incipient stages, with well-known tissue changes and slight hæmorrhages, and the more general disease we usually designate arterio-sclerosis, my difficulty being all the greater as I have had on several occasions seen individuals at different stages—extending over many years—of this illness, where at the early commencement one would have labelled the malady as being renal, but where as years have passed by the conditions have been on all fours with those generally considered as due to arterio-sclerosis. So much have I been impressed by this that I take the view that in a large proportion of those cases of so-called chronic renal disease of contracting type, we are in reality dealing with a general arterial degeneration which happens to be concentrated on a certain definite area—to wit, the kidney. Otherwise I fail to explain a clinical fact which has frequently come under my notice—namely, that in some patients the primary disease, or perhaps more properly the symptoms denoting such local disease, may remain quiescent, or entirely in abeyance, or occasionally subsiding altogether, and marked evidences of arterial changes will assert themselves in another position of the arterial tree. We can scarcely overrate the importance of recognising the early local changes of arterio-sclerosis, as it is in the commencement of the disease we obtain so much from treatment.

I am, Sir, yours faithfully,

Green-street, W., Oct. 22nd, 1912. DONALD W. C. HOOD.

LEGISLATION CONCERNING PROPRIETARY REMEDIES.

To the Editor of THE LANCET.

SIR,—I have read with interest the excellent editorial in THE LANCET of Sept. 28th under the above title. In no spirit of criticism, may I call attention to a slight misconception that the editorial writer has of the Federal Food and Drugs Act of this country? The editorial states that this Act "prohibited extravagant and misleading claims in advertisements and labels." As a matter of fact, the Act has never prohibited any kind of claims that might be made in advertisements. The most outrageous falsehoods may be published in the newspapers regarding the composition, place of origin, or therapeutic efficiency of any patent or proprietary medicine, and the manufacturer is exempt from prosecution under the Food and Drugs Act. What the Act actually does prohibit is false claims that appear *on the label* regarding composition or source of origin of proprietary remedies.

When first enacted it was generally supposed, and the lower courts so held, that the Act also prohibited false or misleading statements regarding the curative properties of preparations. The United States Supreme Court, however, has decided (in a divided opinion) that the Act did not apply to therapeutic claims. This decision seriously crippled the efficiency of the law for some time. Within the past few weeks an attempt has been made to strengthen the law by adding an amendment that specifically prohibits any statements regarding the therapeutic effect of medicines "which are false and fraudulent."

The editorial further states, "Substances that are considered dangerous are scheduled in a very complete list of prohibited articles in this Act." There is no list of prohibited articles, but there is a list of articles whose presence and quantities must be declared on the label of the preparations containing them. The list, unfortunately, is a small one, comprising "alcohol, morphine, opium, cocaine, heroin, alpha and beta eucain, chloroform, canabis indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substances." It will thus be seen that some of the most dangerous poisons can be used as ingredients of patent or proprietary medicines and a purchaser be given no hint as to their presence. Strychnine, arsenic, hydrocyanic acid, and

many other equally dangerous poisons can be used with impunity by the "patent medicine" manufacturer.

I am, Sir, yours faithfully,

Chicago, Oct. 11th, 1912. ARTHUR J. CRAMP.

"MENTALLY EXCEPTIONAL" CHILDREN.

To the Editor of THE LANCET.

SIR,—It is quite clear that the class of children alluded to last week in an annotation under this heading, and described by Dr. Ziehen as psychopathic, if not saved for constructive work, are destined to become destructive forces in the environment in which they are situated. It seems to be his object to evolve methods of education and to provide special institutions for their care and supervision, in order that this human wastage may be avoided. In America it has been suggested by the National Association for the Study and Education of Exceptional Children that the waste products or by-products of our social organisation, and among them may be counted the exceptional child, may possibly prove as commercially valuable to the State as many former waste products of industry are now found to be under improved processes of manufacture. This sounds to me rather speculative optimism, although as an incentive to action the view has its value. The great difficulty here, as in America, is to devise some reasonable system of grading such children in classes, for it is clear that the expense of giving each an individual education would be impracticable on the grounds of expense.

I am, Sir, yours faithfully,

Oct. 21st, 1912. ERIC PRITCHARD.

THE LIFE-CYCLE OF THE ORGANISM OF SYPHILIS.

To the Editor of THE LANCET.

SIR,—May I be allowed to controvert some of the statements made by Mr. H. C. Ross in THE LANCET of Oct. 19th? The facts are as follows. In January of this year I was prompted by the clinical and pathological observations mentioned in my article to inquire into the life-history of the organism of syphilis, as I felt convinced that the spirochæta pallida alone could not account for all the phenomena. The lymphatic gland suggested itself to me as the most likely place for the other phases to occur, and I accordingly looked for and found them there. On Sept. 7th Mr. E. H. Ross came to the Lock Hospital for some syphilitic material, when he was informed by my house surgeon, Mr. Moolgavkar, that I had been working at this subject for some months. Consequently, he came to see me at the hospital on Sept. 14th, when I informed him that I had found certain bodies in sections of lymphatic glands, but I did not mention that I had also found them *in vivo* and in fixed films. On Sept. 18th I took two sections of glands, one before, the other after, the administration of "606," to the Lister Institute, and showed him the bodies that I had found. I was then shown a specimen by the jelly method from a lymphatic gland which he had received from me that day, the other half of which I had investigated the same morning. I saw nothing more than I had already seen, and I was not shown the complete cycle of the parasite of the guinea-pig or of the earthworm, as Mr. H. C. Ross asserts. Following on this came Sir Ronald Ross's announcement in the *British Medical Journal* of Sept. 28th that his brother, Mr. E. H. Ross, had found bodies in syphilis "not in the mononuclear leucocytes of the blood, but in large mononuclear cells squeezed from local lymphatics." I was not anxious to publish my observations until I had had the opportunity of ascertaining the action of "606" on what I took to be the spores, but this announcement appearing so soon after Mr. E. H. Ross began his work, and after his examination of the first lymphatic gland I had supplied him with, left me no option. It is not clear why Mr. E. H. Ross did not announce his own discovery, or why he left the attack on my article to another brother. My deductions were not solely drawn from sections, as I had seen the bodies both alive stained by the borax methylene blue method and in films stained with Giemsa, but I was especially glad to find them in sections, as in this way permanent specimens could be obtained. Some five of these sections I presented to Mr. E. H. Ross, whose brother is kind enough to admit that they do show some "splodges."

Mr. H. C. Ross says that "there is no coil in the human parasite," but I have seen it in many instances both in living and in Giemsa stained specimens, and before I saw Mr. E. H. Ross's paper I was familiar with the development of spirochætæ from a coil from the writings of Danilewsky and Schaudinn, and I acknowledged my indebtedness to that paper out of courtesy, as Mr. E. H. Ross was working at the same subject, and, moreover, on material which I had unreservedly placed at his disposal. It was owing to Doflein's and Kohler's article in the "Handbuch der Pathogenen Mikroörganismen," Band VII. 1, S. 88 and 89, under the heading "Gattung Leucocytozoon Danilewsky," that I ventured to suggest the name leucocytozoon for the analogous syphilitic parasite. And I cannot see that Mr. H. C. Ross has shown that the suggestion is "surely erroneous."

In conclusion, I may add that on Oct. 17th I showed at the Dermatological Section of the Royal Society of Medicine 12 slides illustrating some of the phases I have described, at which meeting critics could have been present.

I am sorry to trouble you with this lengthy letter, but I felt that Mr. H. C. Ross's thinly veiled attack on my good faith in the matter called for an immediate reply.

I am, Sir, yours faithfully,

Wimpole-street, W., Oct. 19th, 1912. J. E. R. MCDONAGH.

To the Editor of THE LANCET.

SIR,—In my letter to THE LANCET last week I wanted to maintain that, since an undoubted parasite has been found in the cells of syphilitics, and since with the jelly method there is now a means of tracing its life-history in a way similar to that adopted for the homologous parasites of guinea-pigs and earthworms, it would be particularly harmful if, at this stage, we indulge in deductions, speculations, or names, based on incomplete evidence. I believe that this will be considered to be the right attitude to select.

I am, Sir, yours faithfully,

The John Howard McFadden Researches, London, S.W., Oct. 21st, 1912. H. C. ROSS.

THE MISTAKES OF ASSISTANTS.

To the Editor of THE LANCET.

SIR,—Professor Waller again alludes to my suggestion that the slight corrections to which he refers may have been made by an assistant. In my experience this is just the sort of thing that an assistant would do; many, like myself, who desire minute accuracy have to suffer for the mistakes of others, in spite of every effort to prevent them. I will give two recent instances. In the final proof of a paper of mine for the *Journal of Physiology* Loewe was spelt correctly, but in the *Journal of Physiology* it appeared Loewi, the correction having been made in seven places by the proof-reader. The next instance is more remarkable. In the minutes of evidence taken before the Departmental Committee on Sight Tests, in reply to question 492, "Has your way of exhibiting the colour any advantage over Sir William Abney's apparatus?" I said, "The method he has adopted is not the same as *he* recommended previously. I do not know the methods that he *now uses*, except from the reports I have seen. But they seem to me to be very similar to mine, showing spectral lights *of varied intensity*. They are not the methods *recommended* by the Royal Society Committee. Their method was to pick out the neutral point, and the trichromic has not got a neutral point. In fact, I took three cases of colour-blindness to Sir William Abney, and he passed them all." This is given correctly on page 26.

This reply is quoted in a question in Sir W. Abney's evidence on page 58 of the Report as follows: "The method he has adopted is not the same as *was* recommended previously. I do not know the methods that he *does use*, except from the reports I have seen. But they seem to me to be very similar to mine, showing spectral lights *and shutters inside*. They are not the methods *reported* by the Royal Society Committee. Their method was to pick out the neutral point, and the trichromic has not got a neutral point. In fact, I took three cases of colour-blindness to Sir William Abney and he passed them all."

The portions which differ in the erroneous version are in

italics. It will be noticed that the second version eliminates nearly all the special points I wished to make.

I am, Sir, yours faithfully,
F. W. EDRIDGE-GREEN.

The Institute of Physiology, University College, Gower-street, W., Oct. 18th, 1912.

THE ACETONE-WRIGHT METHOD OF LEUCOCYTE COUNTING.

To the Editor of THE LANCET.

SIR,—In the very hot weather we have here from May to August inclusive the acetone-Wright solution which I described in THE LANCET[1] completely failed to work. Another method which is not affected by heat, is rather easier for the inexpert to handle, and gives almost equally good results, is as follows:—Prepare a 2/3 saturated solution of Wright's stain in methyl alcohol free from sediment by adding 5 c.c. of methyl alcohol to 10 c.c. of filtered saturated solution. Store in a tall narrow bottle to allow any possible sediment to sink and leave perfectly clear fluid above. Prepare also some 0·1 per cent. sodium chloride solution, filtered. For use add 1 part of the alcoholic solution to 3 parts of the saline and use at once. The alcoholic solution stains films quite successfully and is less apt to deposit a precipitate on them than the stronger solution commonly used. Further experience has convinced me of the great value and accuracy of these methods, provided that the cautions laid down in my previous communications are observed.

I am, Sir, yours faithfully,
R. A. P. HILL.

Union Medical College, Peking, China, Sept. 30th, 1912.

BRITISH RED CROSS BALKAN FUND.

To the Editor of THE LANCET.

SIR,—The generosity of the British nation in alleviating the distress of the sick and wounded of foreign armies engaged in war has been repeatedly proved in the past. It is difficult to bring home to the public of this country the appalling suffering involved in a winter war in the Balkans. Communications are difficult, the cold is intense, and even rudimentary transport is a matter of extreme difficulty. Moreover, the fighting in this particular war is likely to be of a specially bitter and severe character, while, on the other hand, the medical organisation available is quite inadequate to cope with large numbers of wounded.

In order to mitigate, in some measure, the terrible suffering entailed by such a winter campaign, the British Red Cross Society is preparing to despatch expeditions to the belligerent countries. In accordance with the provision of the Geneva Convention the sanction of the Foreign Office for these expeditions has been obtained, and offers of help have been gratefully welcomed by representatives in England of the various countries concerned.

The invested funds of this society are only applicable to wars in which British troops are engaged. A special fund, therefore, is necessary in order to render assistance to foreign belligerents, and it is for this fund that the British Red Cross Society now appeals for subscriptions. The money contributed will be administered by specially appointed committees of the society. Among those who have consented to serve on these committees are Georgiana Countess of Dudley, R.R.C., the Marchioness of Lansdowne, C.I., the Marchioness of Londonderry, the Duchess of Montrose, LL.D., the Lady Wantage, R.R.C., Colonel Sir George Beatson, K.C.B., Sir Anthony A. Bowlby, C.M.G., Mr. James Cantlie, F.R.C.S., Sir Benjamin Franklin, K.C.I.E., Surgeon-General Sir Alfred Keogh, K.C.B., Mr. A. K. Loyd, K.C., Mr. George Henry Makins, C.B., Mr. J. Danvers Power, M.V.O., Mr. Edward A. Ridsdale, the Hon. N. Charles Rothschild, the Hon. Arthur Stanley, M.V.O., M.P., and Sir Frederick Treves, Bart., G.C.V.O., C.B.

The services of the society will be rendered impartially to all the combatants concerned, but it is, of course, open to any subscriber to ear-mark a donation for the special assistance of one or other of the belligerent parties, and any instruction to that effect will be strictly observed.

Subscriptions marked "British Red Cross Balkan Fund," and sent either to the secretary, British Red Cross Society, 9, Victoria-street, Westminster, London, S.W., or to Messrs. Coutts and Company, 440, Strand, London, W.C., will be gratefully acknowledged.

I am, Sir, your obedient servant,
ROTHSCHILD,
Chairman of the Council British Red Cross Society.

9, Victoria-street, London, S.W., Oct. 16th, 1912.

[1] THE LANCET, Jan. 6th, 1912, p. 20, and Feb. 10th, p. 389.

EMETINE SALTS IN THE TREATMENT OF DYSENTERY.

To the Editor of THE LANCET.

SIR,—In THE LANCET for Oct. 19th Lieutenant-Colonel L. Rogers states that his treatment of dysentery with emetine salts is new. If he will refer to p. 269 of the *Indian Medical Gazette* for September, 1891, he will find that I used emetine with good results. No distinction was made between cases due to amœbæ and those due to bacilli.

I am, Sir, yours faithfully,
J. H. TULL WALSH,
Lieutenant-Colonel I.M.S. (retired).

St. Faith's, Norfolk, Oct. 23rd, 1912.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—With all due deference I must contend that the "fallacies" Mr. Harford finds in my arguments more properly belong to his own. "M.D." in the letter I criticised stated that in his opinion the need for medical services owing to sanitary advancement in the future would be diminished, as a matter of fact. This may or may not be the case. Mr. Harford appears to think that in reality there will be no such diminution, and that the average amount of medical work will remain the same. Perhaps he is right, but whether right or not it is a fallacy of the most pronounced kind to imagine that his arguments on this matter are in any way relevant to mine.

With regard to the remarks on my representative responsibility, it is to be regretted that he is again rather wide of the mark. My letter was not in any sense written in my capacity as a member of the body to which he refers. If it will afford him any satisfaction I can assure him that it is exceedingly doubtful whether the State Sickness Insurance Committee would endorse all the views expressed in my letter. They only happen to be my own, and were not put forward in any representative character at all; but I am not surprised at his confusing representative and individual opinions in this manner. He is not the only member of the profession at the present time subject to the same confusion. As I consistently opposed both the schemes Mr. Harford refers to, as is generally known in my own division, it will be a good illustration of the fallacy of supposing that a member of a representative body necessarily incurs any individual responsibility for its action, or can be accurately described as one of the "authors" of the same.

I do not question the *bona fides* of Mr. Harford in the attitude he has thought fit to take up. When gentlemen like himself and Dr. Mills circularise the whole medical profession on the lines laid down in their recent pamphlet, it must be admitted that they are strongly impressed by the present situation. But I must be permitted to say that Mr. Harford's remarks as to the likelihood of a rupture in the unity of the profession and the danger of its disunion come with an ill grace from one who has chosen to follow his own individual opinion in preference to that of his profession, which, if not unanimous, has been given with a solidarity hitherto unknown in its annals.

If the profession remains united, even to the extent it has appeared to be, since the introduction of this mischievous Act, it is probable that it will gain its ends. If the causes that Mr. Harford suggests are sufficient to break it up, then it must be confessed that it is incapable of that union without which no independent profession can expect to protect its legitimate interests. In the latter case a heavy responsibility rests on those men who, like Mr. Harford, have deliberately flouted the opinion of their profession. The coming Representative Meeting may decide a good many

things, but I do not think it is likely to approve of the action of Mr. Harford and his colleagues.

Admitting, as Mr. Harford does, the vital necessity of unity of the profession at the present crisis, it would tax human ingenuity to show how it is compatible with the right of private judgment claimed by himself and colleagues. If every divergent element in the profession were to claim the same right, unity among us would be a negligible quantity. I am, Sir, yours faithfully,

Hackney-road, N.E., Oct. 19th, 1912. MAJOR GREENWOOD.

To the Editor of THE LANCET.

SIR,—Dr. Major Greenwood must be in error when he maintains that "capitation rates will always be reckoned on the basis of the services of the doctor." I know of no society which makes the amount of attendance bear any relationship to the rate paid per head. For example, I had the care of three different societies for many years, one of them being a Rechabite tent, another a branch of the Hearts of Oak, and a third one of the Oddfellows Order. Though the sickness, and therefore attendance, on the first was considerably less than that of the others, the capitation rate was the same in each case. I saw no reason for thinking that the abstainers thought themselves unfairly treated because they were spared the misery of much illness, even if they have not the privilege of so much doctoring. In fact, it has been seriously suggested that a good method for the payment of medical men would be to fee them as long as their patients remain well, and give them nothing when they are ill. This is the true significance of the Public Health Service, and no medical officer will think himself unworthy of his salary if the health of his district is such as to require little attention. I demur to the statement that it is "inconsistent with the dignity of the profession to be pensioners of the community" in this sense. The medical officer of health is paid to keep people well, and he earns nothing for treatment of disease except in the way of prevention.

I am convinced that the profession has made a serious blunder in forcing the Government to initiate a Public Health Service as is now under consideration. The free choice of doctor has been too much emphasised, and it will work out quite as often injuriously as beneficially for the profession. Likewise the right of refusal on the part of the doctor will lead to unforeseen results. All the incurables and chronics will be declined, and the appointment of a salaried officer to attend upon them will become a necessity. Thus the free choice of doctor, as Dr. Greenwood has rightly stated, would become extinguished for those placed under their care, and their position as public servants to a most unthankful and troublesome class of patients would be an exceedingly unpleasant one. I am, Sir, yours faithfully,

Oct. 18th, 1912. M.D.

To the Editor of THE LANCET.

SIR,—If the Chancellor decides to allow the sum of 8*s.* 6*d.* for medical benefits, out of which the chemist is to be paid, and remembering that in Germany the chemist gets 3*s.* 7*d.*, the way out of the difficulty is for all medical men to bind themselves to provide medicine free of charge, and not to send anyone to the chemist. By supplying medicine and attendance for 8*s.* 6*d.* we should be in a much better position than we should be if we allowed the chemist to have the first pull. Besides this, we should retain our dispensing, the loss of which will seriously diminish many of our incomes.

I am, Sir, yours faithfully,

Oct. 21st, 1912. COUNTRY SURGEON.

KING'S COLLEGE HOSPITAL SITE.—The committee of King's College Hospital has decided to dispose of the freehold site of the present building near the Royal Courts of Justice as from January, 1914. Tenders either for the purchase of the fee simple or for leases for 60 years or 99 years are invited, and if taken for the shorter term £25,000 are to be spent on alterations of the buildings, but if for the longer term £100,000 are to be expended upon new buildings. Messrs. Weatherall and Green are the agents.

THE FIFTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY AT WASHINGTON.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 1108.)

Washington, Oct. 4th.

The Work of the Sections.

THE fact that the members of the Congress were received by Mr. Taft at the White House on the afternoon of Monday, the day when the Congress was opened, interfered with the first meeting of the sections announced for the same afternoon. The division of Demography was deserted at the opening hour. The Section of Military Hygiene made a better show, for there were some 30 to 40 persons present—quite sufficient for practical work, but looking a small group scattered over a magnificent hall with comfortable seating capacity for ten times the number of people. The small room allotted to the Section of Industrial Hygiene was fairly full. The notes which I made myself, and those which I received from coöperators, proved that useful work was soon in full swing in many places.

Street Noises.

Dr. GEORGE M. KOBER, Professor of Hygiene, of Georgetown University, Washington, D.C., invited his audience to discuss the urgent modern question of street noises. Everybody who spoke agreed that unnecessary noise should be suppressed and unpleasant noise mitigated as far as possible. A special society to attain this end exists in Vienna, but difficulty had arisen as to the definition of what constituted an unpleasant noise. In Germany the locomotive whistle had been abolished, and Philistine things had been said—at any rate some years ago—about public performances of Wagner. At Florence and Pisa many complaints appear to have been made of the remarkably shrill sound of the railway whistles. The width of the streets and the asphalt pavement of Washington were much praised as securing for the inhabitants a comparative freedom from noise, but it was agreed that these conditions could not be expected in old cities or in those set upon mountainous sites.

The debate took place in the Section of Hygiene, in connexion with which, though at a plenary meeting, Sir THOMAS OLIVER, of Newcastle-on-Tyne, delivered a remarkable address on Dust and Fume as Foes of Industrial Life.[1] In regard to this address Dr. Lindermann, speaking in German, explained that the great disaster at Bochum was due to the inflammable character of the dust in the deeper parts of the coal mine, and agreed with Sir Thomas Oliver that methods of prevention of such tragedies ought to be put into practice.

The Food of the German Workman.

Professor MAX RUBNER, Director of the Institute of Hygiene at Berlin, gave a description of the poor food with which the working classes of Germany have to be content. Till quite recently, he said, meat never appeared on the workman's table. Now he is beginning to insist on having occasionally a meat meal; not, the Professor added, because the meat was an indispensable factor in his diet, but because the eating of meat is inevitably considered to be a mark of prosperity. Professor Rubner said that the consumption of a cheap imitation of coffee is increasing. His remark that he did not believe there was such a thing as a normal diet for man, that material and quantity must vary according to the work to be done, and that he could not dogmatise as to what was the minimum of food necessary, led the way to general debate on nutrition, interesting, in the direction which it took, as much to physiologists and embryologists as to those who were studying the matter mainly from the industrial point of view.

New Serums.

During the course of the day Dr. SIMON FLEXNER, of the Rockefeller Institute, described the recent work which he has been doing in connexion with an anti-meningitis serum. The population of Dallas, Texas, had been swept away by epidemic poliomyelitis, and all the growing records of the

[1] This address was published in full in THE LANCET of Sept. 28th.

disease showed that it was highly important that it should be controlled. He then gave his figures. He had used the serum in 1294 cases, and of these 70 per cent. had recovered. During the Louisiana epidemic the serum was given in 176 cases and 123 recovered, and in 70 cases where no serum was administered 63 of the sufferers had died. Dr. Flexner said that in Louisiana the action of the serum was the same on the coloured and the white people, but in absence of the serum the black man appeared to have a smaller chance of recovery.

The Trachoma Bacillus.

In the First Section Dr. ANNA W. WILLIAMS, of the Research Laboratory Department of Health, New York, described her researches to show that real trachoma was due to a small bacillus, and that its presence serves to differentiate the true and contagious disease from other conditions having many features in common, but not contagious or so serious in their consequences. Many children are now excluded, she said, from school because they are supposed to have trachoma when this is not the case. It was felt that if the work stood the test of further trial a valuable point in preventive medicine had been scored, as more accurate diagnosis might prevent much unnecessary interruption of education that now takes place.

A Good Chairman.

On the Tuesday morning I attended the meeting of the Third Section, where I had an opportunity of admiring the manner in which Dr. Abraham Jacobi presided. He kept every speaker to the point, and yet was not brusque or interfering. If congresses would appoint chairmen simply because they knew how to preside, what an enormous difference it would make to the smoothness of their working. In making this comment, however, I am not blind to the difficulty of finding such men. In technical conferences they must be men of real learning. To elect the men of science as honorary presidents, give them exceptionally elevated seats on platforms, and leave the work of the Congress to be managed by less well-informed people would not be a sound departure. We often hear it said that for the rough-and-tumble work of presiding, for knowing how to distinguish between a resolution, an amendment, and an addendum, none but very experienced and tactful chairmen should be appointed. But tact and experience are useless without knowledge; a chairman must know how far a thing is to the point, how far a statement is germane to the discussion, before he rules out a speaker for discursiveness, and unless he is fairly well grounded in the subject himself he cannot give a trustworthy ruling. Distinction in science does not make a man a good chairman, but in technical subjects it would be hopelessly dangerous to prefer as a chairman the man who knew only the routine of conducting a meeting to a man who knew the technique of the subjects to be debated.

Milk and Infant Care.

A great deal was said in Section III. about milk, the subject being approached from numerous points of view. Dr. GAGE, of Chicago, advocated pasteurising every drop of milk required for consumption, at any rate in towns, while other speakers thought that the less we pasteurised milk the better. The process, they considered, was not necessary in ordinary circumstances, and was only justified when the milk was really suspicious. Dr. JACOBI, taking part in the debate, related that early in his medical career he was connected with an institution where, what with bad sanitation and foul milk, they had an infantile mortality of 100 per cent. He failed to see how they could attain a higher figure. When he pointed out this fact there was an immediate result. He was dismissed! This was in his young days, and so much had things changed that now, with breast feeding in favourable circumstances, we had an infant mortality of 7 per cent., with the best artificial feeding of 19·20 per cent. The general feeling of the section was, of course, a foregone conclusion—it was all decidedly in favour of breast feeding. It was suggested that the authorities might in some cases very advantageously refuse to assist mothers who sought for help unless they suckled their own infants, though here much hardship might be inflicted. But at any rate all aid given out of public funds should be given, it was held, with intent to preserve the home; the sending of the children to an institution and allowing the home to be broken up was held to be unwise when it could be avoided. It is much easier to send the children to institutions than to save their parents and prevent the breaking up of the homes, but the section, while recognising this, as well as the necessity for such a course in some cases, demanded on the whole an increasing recognition of the value of home life. Poor relief, it was felt, was too often not relief at all but an accentuation of the devastating effects of poverty, if it did not aim, above all things, at the preservation of the home. Especially was this the view in America.

Dr. COTTON, of Syracuse, gave a glowing account of the lives saved by nurses sent out by the health department of that city to visit the homes of poor mothers.

Disinfection of Schools.

In the same section there was next discussed the question of disinfecting schools, and the summary of a paper by M. AUGUSTIN REY (Paris) was read which pointed out that, as education was now compulsory in all civilised communities, construction of healthy school buildings should also be compulsory. The law had no right to force a child to sit long hours in an insanitary building. All congresses agreed that a building which had not plenty of air and light must be unhealthy. The action of the ultra-violet rays had only recently been discovered, and they showed what a powerful disinfectant nature supplied in the solar spectrum. If a school was built north to south then the eastern rooms should be left open to the action of the sun in the morning, while the children worked in the western rooms that had been purified by the sun rays of the previous afternoon; after the morning they could go to the rooms on the east side.

Mr. WALKER, of New York, regretted that, in spite of all that had been done in America and elsewhere, schools had constantly to be closed, but he referred to contagious and epidemic diseases. Scarlet fever, measles, whooping-cough, undetected tuberculosis, and the continued power of infecting after recovery from such conditions as diphtheria were constantly emptying the schools, which, despite all precautions, would be the centres for distribution of disease. This evil influence would be much modified if more attention was paid to the principle of prevention as well as greater care exercised in early diagnosis. We only disinfect schools, he said, when the presence of disease is made manifest, and this disinfection is not always effective. The process of disinfection should be regular, not only applied in serious conditions. Personally, the speaker was in favour of liquid spray disinfection, as the fluid comes in actual contact with the walls and floors, and does not cause dust. He had calculated that 10,000 square feet could be sprayed with pure phenol in 25 parts of water for 40 cents, or about 1*s.* 9*d.* Every school wall should thus be moistened once a week, and wet cloths passed over the top of shelves. It was the more necessary to take such measures as the presence of infected children was unavoidable.

Mr. REDWAY, of New York, had been interested all his life, he said, in the practical task of cleaning the premises of schools. At first he considered such work mere drudgery, but now he took a keen interest in the scientific aspects of the work. He explained the evolution of scientific cleaning, claiming that soap, water, and the scrubbing-brush have been gradually superseded. Porous absorbing board floors should be oiled and rendered non-absorbent. Here he made an excursion into the theories of the influence of colour. He said that it had been discovered that colour influenced the temper of a class and the success of the teaching, and described from personal knowledge the mischief which the prevalence of red had wrought in a New York school. But here the disorderly class was pacified when the red was replaced by olive grey. The speaker was at this point called to order on the ground that the section could not discuss the causes of bad temper.

Dr. NIGHT, of New York, urged that a more drastic remedy than the penetration of the rays of the sun in class-rooms was needed, adding that also it was not possible to get the sunlight to play on all the surfaces. We must, he said, periodically disinfect and have a well-established standard of what constitutes effective disinfection.

Dr. HURTY, of Indianapolis, thought disinfection was mainly useful because it was necessarily followed by very thorough ventilation. The success of outdoor schools was proof of the need of ventilation. He pointed out that the secretions from the noses and mouths of pupils were the

principal cause of infection, and indicated here the value of rigorous medical inspection of school-children.

Dr. HARRINGTON, of Boston, declared that more benefit resulted from opening all the windows widely directly the pupils had left the class-rooms than from any chemical disinfection.

Altogether the debate was not very encouraging. There was no emphatic opinion registered as to what should be done. There was more agreement in denouncing methods that had been tried than in proposing reforms. The Section adjourned without giving any advice or adopting any resolution that might have served to guide school authorities.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Recent Medical Events.

THE medical side of the University is now in full swing. The number of beginners in the first year medical classes is said to show a considerable increase over those in the last few years. Important changes in the teaching staff are announced. Dr. Archibald Donald, who is on the active staff of the Royal Infirmary and St. Mary's Hospitals, has been appointed by the council to the chair of Obstetrics and Gynæcology in the University, vacant through the death of Sir William J. Sinclair. Professor Donald entered on his duties on Oct. 11th. The official announcement has just been made that Professor J. Lorrain Smith "having been appointed Professor of Pathology in the University of Edinburgh, has resigned the chair of Pathology and Pathological Anatomy." The resignation of his Manchester professorship will not take effect until the end of the Michaelmas term. From the new medical prospectus we learn that an examination on practical toxicology will no longer be required for those candidates who present themselves for examination in medical jurisprudence for the degrees of M.B. and Ch.B. The annual dinners of the Aberdeen University Club and the Edinburgh University Club were held last week. Mr. Harold Stiles was the principal guest at the Edinburgh University dinner.

Cleansing Department of a Great City.

The annual report of this department shows that from 141,057 workshops, &c., there were collected and disposed of 139,702 tons of ashes, 31,373 tons of night soil and pail contents, 16,544 tons of warehouse and trade refuse, 6368 tons of slaughter-house refuse, 5504 tons of stable, &c., manure, and 2491 tons of fish refuse. From the city thoroughfares and markets 81,551 tons of street sweepings and 4893 tons of market garbage were collected and disposed of. The total weight of refuse collected by the department during the year exceeded 290,000 tons, or nearly 1000 tons each working day. There is a staff of 1900 employees, involving a yearly payment of wages of £122,792. The gross expenditure for the past year was £218,000.

Cremation in Manchester.

There were 147 cremations during the year, bringing the total number since the opening of the institute in 1892 to 1689. The chairman stated that in St. Gall, in Switzerland, 40 per cent. of those who died there were cremated. He appealed to the medical profession to assist the cause, and he appealed to them on sanitary and hygienic grounds. The need for active propaganda as to the merits of cremation still existed, as it was only by educating the public on the general advantages of cremation over earth burial that more rapid progress could be expected. After covering all expense there is a surplus of £428, while the accumulated total surplus is £716, and the reserve account £300.

Some Points on Malingering.

Mr. C. H. Buckley on Oct. 15th gave an address on "Some Points on Malingering" to members of the British Association of Managers of Textile Works. Defining malingering as a fraudulent mimicry of disease or injury, he had no doubt as to its marked increase since the introduction of the Workmen's Compensation Act, 1906. It was much more common in accidents than disease, and that was probably due to the legal liability which attached to the cases. In ordinary medical practice feigned disease seldom occurred. General practitioners were unlike examining officers in large insurance offices, who were constantly confronted with attempts at malingering. In all cases of disputes it was most desirable to have consultations on both sides. Most cases of so-called malingering would be at once detected, and any difference of opinion would not be threshed out in court but in the consulting-room. He believed that three-fourths of the subjective symptoms, and often the physical signs, which were found following even trifling accidents, were the result of self-suggestion or of suggestions made by others. The injured person should be asked to state the symptoms. Certificates of unfitness were too easily obtained. If this was so, then the employer had to pay more than the case warranted, while the sick pay of the various societies of which the patient was a member was unnecessarily prolonged. There were three types of offenders: (1) The real malingerer, who had absolutely nothing wrong with him; (2) the partial malingerer, who had met with some trifling injury as compared with his description, and who wilfully made the most of it; and (3) the unconscious malingerer, who believed everything he told the doctor, but who was more frightened than hurt. It was stated by Mr. Buckley that a German workman who was making a claim might be compelled to enter a hospital for the purpose of being kept under observation. In 1908 there were 328,957 claims in respect of industrial accidents and less than 1 per cent. of them were brought into court. The vast majority were non-contentious cases, but often the employer paid many weeks of unnecessary pay. The lecturer suggested that more medical assistance was required on the bench when such cases were being tried, and that a medical referee should be a whole-time salaried official, like a county court judge, and his position should be entirely independent.

Oct. 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Results of Improved Sanitation.

THE death-rate of Liverpool during the current year is the lowest on record—namely, 17·3 per 1000, as against 17·9 per 1000 two years ago. The decline was most marked in infant mortality, the rate of which was 120 per 1000 births. This was also the lowest on record, the average of the last five years being 144 per 1000 births. The diminution in typhoid fever still continues, the deaths being only 14, of which 6 were imported cases. Deaths from scarlet fever numbered 68, again the lowest recorded. Unfortunately, the same gratifying statement cannot be made in regard to either measles or whooping-cough. Street widening has been continued. An important development has been the recent introduction of new works and factories for the extension of the tramway system. Some 1200 additional trees have been planted, bringing the total to about 11,000. There are now some 100,000 dustbins in use, 45,000 ashpits out of a total of 65,000 having been abolished. Over 8,000,000 units of electricity had been generated during the year by means of the refuse destructors. The results of improvement in every direction of our sanitary environment are becoming evident.

The Eaton Hall Fund for Charities.

The Duke of Westminster makes a charge of 1*s.* each to excursionists visiting Eaton Hall, the proceeds of which he devotes to the local charities. This year the sum of £690 has been distributed among 13 charities, the larger share of £350 being awarded to Chester Infirmary. It is interesting to learn that with the present contribution the total amount which the Chester Infirmary has received from this source exceeds £6000.

Dearth of Cottages in Cheshire.

At the Winsford urban council meeting Mr. T. W. H. Garstang, the medical officer of health, reported that there was a serious shortage of cottages for the working classes, not only in Winsford but in other districts with which he was connected. Cases constantly came under his notice which were most pressing. One of his inspectors said he knew where 11 people were living in a four-roomed cottage.

Oct. 22nd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Bacillus Carriers Among the Kitchen Staff of the General Hospital.

AN alarming incident happened recently in the Vienna Allgemeines Krankenhaus, the circumstances being as follows. After partaking of a hearty meal a number of the members of the medical staff who are boarded in the hospital were suddenly and simultaneously attacked by violent gastro-intestinal trouble, with great prostration, diarrhœa, vomiting, and pyrexia. At the same time, a number of nurses of the hospital were taken ill in a similar manner. This coincidence at once suggested that the cause would be found in the hospital kitchen, from which the food for both the medical men and the nurses had come. At first a metallic poison was suspected, and very stringent measures were adopted to trace the origin of the outbreak. There was also some public alarm in consequence of the fact that there were over 2000 patients under treatment in the hospital, and a special commission of investigation was appointed. Of course, bacteriological and chemical examinations were made in the case of all patients, and when it became necessary to examine the stools of the entire kitchen staff the task was no small one. The quality of the food used in the kitchen was found to be quite satisfactory, and the absence of any inorganic poison was proved, so that the inquiry was soon narrowed down to a few persons, who could be shown to be bacillus carriers. The disease was an outbreak of paratyphoid fever of a low degree of virulence, and all the patients soon recovered. Amongst the women engaged in making up the portions for the medical officers and nurses, as well as amongst the cooks, four persons had to be pronounced infectious. They were at once put under proper treatment, and the outbreak was quelled after four days. During the inquiry it came out that some weeks ago there had been occasional instances of similar gastro-intestinal mischief amongst patients and nurses, but no attention had been paid to it. The population, however, was for a time very much alarmed, for about two weeks ago a number of similar cases occurred among members of the upper classes of society who had attended a banquet held in honour of the Congress of Lawyers. This was traced to the use of Russian frozen fish, and it was rumoured that the same kind of food had been consumed in the hospital. The prompt action of the Pathological Institute, involving as it did an immense amount of work, was favourably commented on by the public and the profession.

Alleged Under-statement of Patients' Fees in Income-tax Returns.

One of our most prominent surgeons was recently asked by the surveyor of taxes whether it was correct to assume that all the private patients operated on by him in the course of last year had died. When the surgeon indignantly replied that the average mortality of his operations was under 10 per cent., the surveyor said that an examination of documents relative to the property left by patients who died in the course of last year after an operation by the surgeon in question evidently showed that from these patients alone he had received over 40,000 kronen in fees, and for the purpose of income-tax assessment he had returned his total receipts at only 40,000 kronen. These returns must therefore be regarded as false, especially as it was well known that he had a large practice, and his statements for previous years were in all probability equally misleading. The result was that the surgeon had to pay a fine of 150,000 kronen (£6000), and his income has been assessed at 250,000 kronen, or £10,000 a year, on which sum he will have to pay a tax of 6 per cent. This severe penalty, as well as the facts leading up to it, has caused a sensation in the profession. There is at present a tendency to extract as much as possible in the shape of taxes from the population, and the medical profession in particular has lately been the object of various experiments in that direction. Although it cannot be denied that their incomes have been deliberately understated by a few practitioners, there is reason to believe that the majority give truthful answers to the official inquiries.

Increased Facilities for Anatomical Study.

Owing to the pressure put upon the Ministry of Education by the professors of anatomy, who had adopted the "numerus clausus" for students of anatomy, the lack of dissecting-rooms will be done away with in a short time. It will be recollected that the limitation of space in the anatomical department was mentioned in this column of THE LANCET on August 17th. The Government has just granted a sum large enough for the erection of two new anatomical theatres, capable of enabling 250 students to dissect simultaneously. The theatres, which are already in course of construction, will be erected on each of the two wings of the existing Anatomical Institute as a third floor. Thus, each wing will consist of three dissecting rooms, one above another, and in this way accommodation for 750 students will be provided. A museum and class rooms in which dried specimens will be used for teaching purposes are also shown on the new plans. Furthermore, the somewhat out-of-date equipment of the existing institutes will soon be modernised as far as possible. There is, however, some probability that the extended accommodation may again become inadequate in course of time because more than double the number of students for whom room can be found have applied for admission, and a protest against this method of applying a temporary remedy has been sent by the students to the Government, together with a petition for the erection of a large modern institute. Another drawback which threatens to disturb the smooth working of the dissecting institute is the fact that the number of subjects available for anatomical and pathological study is constantly getting smaller; last year, instead of 2517 bodies as in the previous year, only 2243 were obtained in all the hospitals of Vienna. At the same time, the number of medical students is increasing, so that the prospect of a scarcity of anatomical material must not be forgotten.

Oct. 19th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

National Sanitarium Association: Fourteenth Annual Report.

THE National Sanitarium Association began work in Ontario in 1896. Since then it has erected four sanatoriums—two in Muskoka and two at Weston, near Toronto. Prior to 1896 tuberculosis was on the increase in Ontario. Twelve years ago the annual number of deaths from tuberculosis in Ontario was about 3400. During 1910 the number of deaths reported from this cause was 2287, an actual saving of over 1000 lives. In the Muskoka Cottage Sanatorium for the year ending Sept. 30th, 1911, 218 received treatment; in the Muskoka Free Hospital 308 received treatment. The Toronto Free Hospital at Weston treated 265, and the King Edward Institution for Children 86. During the fourteen years the Muskoka Cottage Sanatorium has been established it has treated 2250 patients; since the Muskoka Free Hospital was opened in April, 1902, 1941 have been treated. The total number treated since the establishment of the Toronto Free Hospital was established seven years ago was 1170; in the King Edward Sanatorium for Consumptive Children it was 316.

The Question of a Medical Faculty in the University of British Columbia.

The Hon. Dr. Young, Minister of Education in British Columbia, states that there will be no medical faculty for a long time to come in connexion with the new British Columbia provincial university. It is the consensus of opinion of medical men in that province that there is an over-production of medical men in Canada as elsewhere, and it is a good sign for the future that the medical profession in the Pacific province discountenance the starting of any other medical school in Western Canada. The Manitoba Medical College can take care of the West for many years to come.

Osteopathy in Ontario.

There are said to be over 1000 osteopaths practising illegally in the province of Ontario. Last year a Bill was before the Ontario Legislature which sought to regulate these so-called practitioners and place them under the discipline of the Ontario Medical Council. That Bill provided that anyone

could practise osteopathy or any other "pathy" upon passing the examinations prescribed by the Medical Council. The Bill was misunderstood, as it was thought that all the osteopaths already in practice were to be legalised. It was intended, however, to only grant licences to about 30 or 40. The Bill was withdrawn at the last minute on the suggestion of the President of the University, and now the medical profession are wondering what will happen during the coming session of the legislature.

Sir Hector Cameron in Toronto.

Sir Hector Cameron has been for a few weeks the guest of Mr. Irving H. Cameron, LL.D., Toronto. On the evening of Tuesday, Oct. 1st, he delivered the opening address of the Academy of Medicine, taking for his subject the Treatment of Abscess and Some Historical References to Antisepsis and Asepsis. On Friday afternoon following Sir Hector Cameron delivered the opening address to the faculty and students of the medical department of the University of Toronto. The address dealt largely with the conditions in hospitals prior to Lord Lister's discoveries, antiseptic treatment, asepsis, good advice to the students, and ideals to be followed by the student body. President Falconer, of the University, presided, and Dr. Louden, a former president, recalled that 15 years ago it was his pleasure to confer the degree of LL.D. upon Lord Lister. Sir Hector Cameron and Mr. Cameron were guests at the first regular monthly dinner of the Toronto Æsculapian Club on the evening of Oct. 10th, when Sir George W. Ross delivered an eloquent and interesting address.

German Medical Men in Toronto.

To the number of 250, prominent German physicians and scientists were entertained in Toronto to luncheon on Oct. 3rd by the Toronto city council. The civic reception committee met them at the Union Depôt and immediately drove them to the Convocation Hall of the University of Toronto, where a reception was held by the President of the University, Dr. R. A. Falconer, and the President of the Academy of Medicine, Dr. R. A. Reeve. Both President Falconer and Dr. Reeve spoke of the close relationship of the University of Toronto and the German universities. Many of the professors in the University of Toronto are graduates of German Universities. Dr. Rudolf Rannhoff, of the University of Berlin, replied for the visitors. Amongst others who spoke of the good relations between Canadian and German institutions were Professor His, Professor Loeffler, Dr. Meissner, Professor Gaertner, Dr. Fornet, and Dr. Adam H. Wright.

Professor Adam Wright.

After being about 40 years connected with the teaching of medicine in Toronto, Dr. Adam H. Wright has resigned from the chair of obstetrics in the medical department of the University. By the death of Dr. James F. W. Ross, a few months ago, and the resignation of Dr. Wright the way was opened for an appointment to the conjoint positions. Dr. Benjamin P. Watson, of Edinburgh, has been appointed to take charge of these departments, and will assume his new duties about Nov. 1st.

Oct. 12th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

The Middleton-Goldsmith Lectures.

Dr. E. F. Bashford, director of the Imperial Cancer Research Fund, London, delivered the Middleton Goldsmith lectures of the New York Pathological Society on the evenings of Oct. 2nd and 4th, at the New York Academy of Medicine. The lectures were entitled "A Review of Recent Cancer Research," and were of a somewhat popular character. The audience was large, and Dr. Bashford explained in the clearest manner the result of experiments undertaken by himself and his colleagues, as well as the various processes through which the different forms of malignant growth pass. Of course, to readers of THE LANCET the work of the Imperial Cancer Research Fund is familiar. Dr. Bashford, however, emphasised the point that the only known means of saving or of prolonging the life of a person with cancer was by early operation. Another point upon which he laid particular stress was that chronic irritation was a factor of great importance in the causation of cancer. He also noted that the slow progress made by competent investigators had given faddists and enthusiasts of all sorts too much opportunity to air their irresponsible views. In conclusion, Dr. Bashford stated that the net result of several years' experimenting had led him to the belief that while animals could be immunised against cancer inoculation from without no method had yet been found to immunise them against tumours which originated within themselves.

Homicide in the United States in 1911.

In the New York *Spectator* of Oct. 5th Mr. F. L. Hoffman points out that whereas in the ten years ending in 1891 the homicide rate in the great American cities was 5·0 per 100,000 persons, by the end of 1910 it was 7·2. Memphis, Penn., shows the highest homicide rate during the decade ending 1911—namely, 47·1 per 100,000. Then come Charleston, S.C., 27·7; Savannah, Ga., 25·6; New Orleans, La., 22·2. The rates were also high for St. Louis, 12·6, and San Francisco, 11·2. During 1911 the homicide rate in most cities was above the average for the decade ending 1910. Mr. Hoffman shows by tables the homicide record for the past 30 years, the comparative rates in 30 American cities from 1901 to 1911, and the comparative mortality from homicide by geographical distribution in the United States. The average homicide rate for the decade ending 1910 was 6·9 per 100,000 population of all cities; 14·7 for southern cities, 9·7 for western cities, 7·8 for central cities, and 4·3 for eastern cities. During 1911 there was an increase in each division except the western, which showed a slight decline. Comparing the rate for all cities for the decade ending 1910 with that for 1911, there was an increase of 20·2 per cent. In another table Mr. Hoffman compares the homicide rate of the United States with that of England and Wales, greatly to the advantage of the latter, and lays stress on the extremely high homicide rate now prevailing in the United States. For both sexes the rate in the United States is 4·8 per 100,000 people, as against 0·9 for England and Wales. The comparison, says Mr. Hoffman, brings out in startling contrast the present disregard of human life in the United States. The importance of the subject, not only to life insurance companies but also to the public, is commented on, and it is pointed out that such a condition is not compatible with the claims to progress in the United States in all that is summed up under the terms civilisation and national welfare.

Oct. 11th.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

The late Dr. J. G. Gibb.

THE foreign community of Peking and a large number of Chinese deeply mourn the death of Dr. James Glenny Gibb, who died on Oct. 2nd from toxæmia supervening on an acute attack of amœbic dysentery. During his summer holiday he had felt indefinite symptoms of appendicitis, but these passed off and he returned to work in Peking though not feeling in his usual good health. An attack of diarrhœa set in which became dysenteric, and in five days after taking to bed the illness proved fatal in spite of the efforts of his colleagues. Dr. Gibb was one of the ablest medical men who had ever come to the Far East. Though of a modest, self-effacing nature, he soon became recognised as our leading authority in ophthalmology, surgery, and bacteriology, and he had great difficulty in restraining the large claims on his time as a consultant in favour of the London Mission Hospital and college work in which his heart lay. He took his M.B., B.S. in 1905, and M.D., M.S., and F.R.C.S. in 1908. Prior to coming to China he was ophthalmic house surgeon and house surgeon at St. Bartholomew's Hospital, and house physician at Westminster Hospital. He specialised also in bacteriology and did valuable work under Professor Klein in London. As a consultant his opinion was sought by nearly every medical practitioner in Peking in difficult cases. His watchword was "Thorough," and he left no stone unturned to elucidate any obscure point. At the outbreak of the pneumonic plague epidemic two years ago, when the call for foreign medical help came, he was the first to respond, and along with Dr. Wu Lien

Tê he went north to Harbin, where the epidemic raged at its worst, and worked heroically throughout it. On his return he received the thanks of the Imperial Government, but modestly declined the high decoration offered him as well as any personal emolument. The Government thereupon, unable to reward him in any way, sent the salary he had so well earned as a donation to the funds of the Union Medical College. When the revolution began a year ago he was called upon by the Chinese to organise the Central Red Cross Society's work, and showed administrative ability of a high order as well as untiring energy. The cause of Western medicine has lost a brilliant disciple in his untimely death. The British Minister, Sir John Jordan, and a large number of Europeans of all nationalities, as well as Chinese of all grades, attended his funeral. It was a striking testimony to the value of this young missionary's short four years work here to see the numbers of Chinese who followed his coffin on foot the long distance, over four miles, to the British cemetery outside the walls of Peking. Deep sympathy is felt for his widow and two young sons, the elder of whom is at present very ill from acute osteomyelitis of the femur, an illness which began the day of his father's death.[1]

Malarial Fever in North China.

A noteworthy epidemic of malaria has marked the past month of September in Tientsin and Peking. Every summer many people (mostly Chinese) suffer from fever due to spirillum Obermeieri and to sandfly bites—phlebotomous fever. The results of work done by independent observers in North China have hitherto been almost uniformly negative as regards the presence of malarial plasmodia, the exceptions being in Chinese who had arrived from the south. During the latter part of August a fever with different clinical symptoms appeared, and those of us who make routine blood examinations began to note benign tertian parasites, and positive results became increasingly frequent till during September the epidemic reached a high level. Not only in Chinese hospitals but among the soldiers of the various Legation Guards many cases were daily noted. British soldiers and Austrian sailors appeared to be the most infected. In this flat city, with no river or streams, anopheles (A. sinensis) are comparatively rare, though culices (C. fatigans) abound in all the tubs and collections of stagnant water. The augmentation in the number of cases has been ascribed to the Legation Guard troops arriving here with the plasmodia present in their systems from previous posts where malaria is prevalent. As we have Austrians from Dalmatia, Americans from the Philippines, and British from India, Malta, Crete, and Hong-Kong, there are some grounds for the possibility of this idea being correct. The comparative rarity of anopheles is a perplexing feature requiring further study. The fact remains, however, that large numbers of North Chinese are now infected with malaria; and, since from October to the latter part of May mosquitoes do not bite and hibernate most of that time, the recrudescence of malaria will be an interesting question as regards the amount of its persistence in the human host as well as in mosquitoes during the long and rigorous winter. Probably the same phenomenon happens in the formation of exotospores in a mosquito's stomach, as has been recently noted by Dujardin Beaumetz and E. Mosny, who found the evolution of the plague germ to be considerably delayed in hibernating marmots (in one case over four months), and thought that this persistence of the virus in the marmot through its hibernating period explained the survival of plague in the endemic foci in Mongolia during the long Arctic winter.

"Clinical" Cholera.

During the past summer Shanghai has been suffering from an outbreak of an acute, and frequently fatal, gastro-intestinal catarrh which in its general appearance is very similar to real cholera. But although careful tests have been made in the Municipal Health Laboratory with the object of discovering traces of Koch's comma bacillus none have been forthcoming, and there has consequently been some public grumbling at the Health Office which issues weekly figures of the infectious diseases prevalent in Shanghai and shows "no cholera," while the newspapers are full of alarmist articles about the disease. Some of the medical practitioners have notified the cases as cholera and continue to do so. These cases have the same symptoms and the treatment and results are the same, the only thing lacking being the presence of Koch's bacillus. In such circumstances the name "clinical" cholera seems to meet the case. At the Chinese cholera hospital, which is under the direction of Dr. S. M. Cox, over 1200 cases have been treated, of which 48 per cent. are described as slight cases, while 52 per cent. are classified as severe. Most of the latter have received intravenous saline injection by Dr. Cox's continuous irrigation apparatus, and this has proved efficacious. The deaths work out at 12 per cent. The disease is not regarded as epidemic, as it is neither infectious nor contagious. The Shanghai summer is hot and debilitating, and many people, especially foreigners, are subject to chills from sleeping in a draught, while, in spite of reiterated warnings from the Health Office, numerous cases of intestinal catarrh are directly traceable to the ingestion of unripe or tainted fruit, unboiled water, and cold food which has become contaminated overnight in the ice-chest and cupboards of an oriental kitchen. At Chengtu, a treaty port on the Yangtze River, there were alarming reports during the summer of a cholera epidemic. Several hundreds of people were attacked, but as inquiry showed no serious death-rate the cases were also probably those of clinical cholera. Shanghai has been officially declared infected with cholera by the Japanese authorities, and all ships going from there to Japan are subjected to quarantine. The medical officer of health, Dr. A. Stanley, inquired at the Japanese Consulate in Shanghai, but no information was obtainable that the diagnosis had been confirmed by bacteriological examination. It would therefore appear that the Japanese health authorities have been largely influenced by the inaccurate reports in a section of the local press.

Peking, Oct. 7th.

[1] The obituary notice of Dr. Gibb in our last issue contained the sad news, received in England by cable, of the death of his son also.—ED. L.

Obituary.

ANDREW DUNCAN, M.D., B.S. LOND., F.R.C.P. LOND., F.R.C.S. ENG.,

LIEUTENANT-COLONEL I.M.S. (RETIRED); PHYSICIAN TO THE SEAMEN'S HOSPITAL SOCIETY; LECTURER ON TROPICAL DISEASES AT THE WESTMINSTER HOSPITAL AND THE LONDON SCHOOL OF TROPICAL MEDICINE.

WE regret to announce the death of Dr. Andrew Duncan, late lieutenant-colonel in the Indian Medical Service, and a distinguished authority on tropical disease, which occurred, after prolonged illness uncomplainingly borne, at a nursing home on Oct. 17th at the age of 62.

He was the son of the late Dr. James Duncan, a well-known practitioner of Henrietta-street, Covent Garden, W.C., and as a student had a very distinguished career, taking most of the prizes awarded for high merit in the several subjects of his curriculum. He was educated at Cholmeley School, Highgate, but the foundation of his professional medical education was laid at King's College, London, while at Vienna, Strasburg, and Berlin he supplemented his studies with great thoroughness, and obtained that wide outlook on professional learning which marked his whole career.

He entered the medical department in King's College in 1868 and gained the Warneford entrance scholarship. During the medical course he took various prizes in the different departments, including the Leathes prize, and finished by taking the final senior scholarship. In 1873 he became house surgeon at King's College Hospital to Sir William Fergusson, Mr. John Wood, and Mr. Henry Smith. In the following year he became house physician at the Seamen's Hospital, Greenwich, where the systematic study of tropical diseases had barely begun, and in this year he graduated in medicine at the University of London, showing himself to be the best all-round man of his year by winning the gold medals in medicine and midwifery and taking honours in forensic medicine. In 1875 he became house surgeon to the Stanhope-street Dispensary and medical registrar to Charing Cross Hospital, in which year he proceeded to the degree of M.D. Lond. In 1876 he again proved his thoroughness and versatility by taking the surgical degree of his university with the gold medal. In this year

he was elected surgical registrar to King's College Hospital. During 1877–8 he was medical tutor and pathologist at St. Mary's Hospital, and was absolutely secure of a place upon one or other of the staffs of the great London hospitals, but he gave up his appointments and joined the Indian Medical Service, passing in second in the list. At Netley he obtained the Parkes medal. He saw service almost immediately, and in 1879–80 was with Lord Roberts in the Afghan war. He was mentioned in despatches and received the medal and clasp. In the battle of Charasiab he was severely wounded, a bullet striking him in the back and emerging at the chest. The bullet passed round between the integuments and the chest wall, grazing the pleura and diaphragm, and breaking a rib in front. During the march from Cabul the front wound, which had healed, reopened and five pieces of cloth were extracted with the pus evacuated. The wound severely affected his general health, but he served also in the Black Mountain campaign in 1891. Nine years later he retired from the Indian Medical Service, after 21 years' service, with the rank of lieutenant-colonel, and returned to England much damaged in strength and constitution. His services were never appreciated in the Indian Medical Service, where he should have made a great mark. But he was a man of strong convictions, which he expressed fearlessly and with an utter disregard for consequences to himself. How seriously this affected his advancement in India is well illustrated by the following episode. Shortly after joining the Indian Medical Service he, then a young officer, wrote a paper entitled "The Unsanitary Tendencies of State Sanitation," in which he criticised severely the views of the chief sanitary officials of the Indian Government. This was considered an act of insubordination, and he was punished for it in various ways. He believed himself, and all his friends were certain of it, that his advancement in the service was blocked at every turn; there is no doubt that he was regarded as a difficult and troublesome man—the fate of all young reformers. However, his opportunity came in 1886 when the subject chosen for the Parkes Memorial Prize Essay was "The Prevention of Disease in Tropical Campaigns." He sent home his original essay with additions, and so differently was his attitude appreciated in London that he was awarded the prize.

On retirement from the Indian Medical Service, he re-entered professional life in London, and the high opinion which his talents commanded secured for him immediately many appointments. He became physician to the Seamen's Hospital and to the Western General Dispensary, examiner in tropical medicine for the University of London, and lecturer on tropical diseases at the Westminster Hospital Medical School and the London School of Tropical Medicine. He became a Member of the Royal College of Physicians of London in 1899, and was elected to the Fellowship of the College in 1907, and was also a Fellow of King's College, London. He wrote very little for a man of such learning and experience, but in addition to the Parkes Memorial Prize Essay, he was the joint author of "The Practitioner's Guide," and author of "The Prevention of Diseases in Tropical Campaigns," and of a "Guide to Nursing in the Tropics," while to "Quain's Dictionary of Medicine" he contributed articles on Dysentery and Kala-azar; and to the "International Clinics" articles on Tropical Dysentery, the Mode of Life on Returning from the Tropics, and Scurvy. He made some interesting communications to the *Edinburgh Medical Journal* and to THE LANCET under his name, while he was for many years a valued collaborator upon our literary staff.

Andrew Duncan should have made a far greater mark, but his attainments never received public recognition; he never came into his own. The following testimony to his character is from a life-long friend, but it reproduces the sentiments of many who had less opportunities for making their estimate.

"Andrew Duncan was a staunch friend, and so innately honourable and sincere in all his dealings that he gained the good feeling and friendship of all with whom he came in contact. The more intimately he was known the more his friendship was valued. Death has closed the reputation of a man of great character and industry. He fought against the irresistible disease which killed him with the same persevering obstinacy and high-spirited cheerfulness which characterised his life, and he met death without a murmur."

WILLIAM TUSTING COCKING, M.D. LOND., M.R.C.S. ENG.,

PHYSICIAN TO THE SHEFFIELD ROYAL INFIRMARY; LATE PROFESSOR OF PHARMACOLOGY AND THERAPEUTICS IN THE UNIVERSITY OF SHEFFIELD.

BY the death of Dr. W. T. Cocking, which occurred on Oct. 19th at the early age of 50, the profession in Sheffield has sustained a very real loss. William Tusting Cocking was born at Sheffield on June 9th, 1862, being a son of the late Mr. Tusting Johnson Cocking. He was educated at Wesley College, Sheffield, and at University College Hospital, London, where he held the posts of house physician and house surgeon. He was subsequently resident clinical assistant at the Brompton Hospital for Consumption. He qualified M.R.C.S. Eng. in 1884 and obtained the M.B. degree of the University of London in 1885, with honours in medicine and obstetric medicine. On obtaining the degree of M.D. Lond. in 1887 he qualified for the gold medal. He then settled as a physician at Sheffield, and was very soon appointed one of the honorary physicians at the Sheffield General Infirmary (now the Royal Infirmary), a post which he held with honour and advantage to that institution for nearly a quarter of a century. For some years he acted as honorary secretary to its medical and surgical staff. He succeeded the late Mr. Arthur Jackson as honorary secretary to the Sheffield School of Medicine in 1895, and was subsequently Dean of the Medical Faculty till 1906. For many years he acted as demonstrator of practical medicine and as lecturer on materia medica and therapeutics, being appointed professor of the latter subjects in 1897, and emeritus professor when he resigned the chair, from failing health, a year ago. During the whole period of his public work and in his private practice Dr. Cocking was energetically engaged both in clinical work and in teaching, and exhibited a genuine sympathetic interest in his patients and in the students.

When the University of Sheffield obtained its Act of Parliament, supplementing the grant of its Royal Charter, Dr. Cocking was appointed its first representative on the General Medical Council. He took an active part and a keen interest in the work of the Sheffield Medico-Chirurgical Society, to which he acted as honorary secretary for six years prior to his being elected president in 1905. For some years he assisted the late Mr. Simeon Snell in editorial work connected with the *Quarterly Medical Journal*, which was published at Sheffield from 1892 to 1903, and he contributed a number of papers to other medical journals.

Dr. Cocking's interest in diseases of the chest led him to devote a large part of his time to the study and treatment of cases of phthisis at the Sheffield Royal Infirmary, and he gave great help in establishing open-air treatment in the grounds of that institution. It is thought that in the valuable service he rendered to this class of cases he contracted the tubercular affection of his own lungs, against which he struggled so bravely and so unselfishly for nearly six years. A year or so ago he had to give up work and take to his house and garden, where he was devotedly nursed by his wife. He was to the last interested in everything that concerned the profession.

Dr. Cocking was a hard and steady worker, a loyal and generous colleague, and an accomplished physician. He was a staunch and lovable friend and as modest as he was honourable. He married, in 1899, a daughter of the late Mr. Edward Berks, who had been treasurer and lecturer on botany to the old medical school. The funeral took place on Oct. 23rd at Fulwood, and was attended by many friends and by representatives of the Council, Senate, and Medical Faculty of the University, and of the Sheffield Medico-Chirurgical Society.

THE departments of bacteriology and public health of the University of London (King's College) which, as already announced in these columns, have been removed to the University Laboratories, 62, Chandos-street, Strand, W.C., will be formally opened on Thursday, Oct. 31st, at 2.30 P.M. The Huxley lecture will be given by Dr. Simon Flexner at Charing Cross Hospital, opposite the laboratories, at 3.30.

NATIONAL INSURANCE ACT, 1911.

STATEMENT BY MR. LLOYD GEORGE TO THE ADVISORY COMMITTEE.

THE following are the minutes of the Conference of the Advisory Committee which met on Wednesday morning, Oct. 23rd, under the chairmanship of the Chancellor of the Exchequer:—

THE CHANCELLOR said:—Ladies and Gentlemen, I have come here this morning to lay before the Advisory Committee the intentions of the Government as to medical benefit. I hope you will afterwards, as briefly as possible, express your views. Then in the course of the afternoon I shall have to make a similar announcement in Parliament.

Now, I have explained to you the purpose of the meeting, and perhaps you would allow me, before I state what the actual proposals of the Government are, to give you a narrative of the events which have led up to the present proposals; and I shall crave your indulgence in doing so, as it may take a little time, but it is very important that there should be a statement of the actual position before we come to the suggestions which we are going to put before you with a view to dealing with that position. Medical attendance upon the industrial classes is of three or four different characters. There is, first of all, what is known as private practice, where the medical attendant charges fees for attendance, for visits, for consultations, and for medicine. As far as I have been able to gather, that barely applies to one-fourth of the industrial population of this country. I do not bind myself to the actual figure, but, at any rate, it is, comparatively speaking, a minority, and perhaps a small minority, of the industrial population who are doctored on that plan. It is largely confined to certain parts of the country; for instance, I believe there are parts of Lancashire where contract practice is unknown, and where all the doctoring is done upon the principle which I have indicated of charging fees. But as far as the vast majority of the working people of this country are concerned, it was recognised both by them and by the medical profession that private practice with payment of fees for work done in each individual case did not provide an adequate method of dealing with the problem; therefore, the majority of the working classes have up to the present had their doctoring done on contract terms. Now, contract practice is divided into two parts: There is, first of all, the contract practice which the Friendly Societies in the main have organised, whereby an inclusive fee of anything from 2*s.* up to 10*s.* is paid to the doctor for attending to their members. This covers something like 4,000,000 people, I think. It is very difficult to get the actual figures, but at least it applies to 4,000,000 of the employed population of this country. As a rule that does not cover their dependants. In certain cases it does. I am talking of what you really know, but it is necessary that I should go through this in order to lead up to the proposal which I am actually making. Occasionally provision is made for dependants as well by medical institutes, which are organised by Friendly Societies at places like Luton, Leicester, Wolverhampton, and other places. I am not expressing any opinion, one way or the other, upon that method of dealing with the problem at the present moment. I only want to call attention to the fact that 4,000,000 of the employed persons of this country are doctored at the present moment on that plan. I think it is generally recognised that the average fee—capitation fee I mean now—sometimes it is high, sometimes it is very low—the average fee, I think, is something like 4*s.* per member, including drugs, including everything except what are known as major operations. Now there is another form of contract practice which is a very popular one in large industrial districts—and that is the works' doctor, where there is a certain sum of money charged, sometimes on a poundage principle, sometimes on a definite scale. It ranges from, I think, 3*d.* to 6*d.* a week, paid by each employed person, to doctor, not merely himself, but his family as well. There are no statistics available, I think, which would show clearly and conclusively how many workmen have their medical attendance organised on that principle, but I think we can safely say this—that contract practice in all its forms, the payment either of 4*s.* for attending the Friendly Society member, membership of medical benefit societies and medical institutes, subscribing to works' doctors—contract practice in all its forms provides for far more than half the working population of this country. That leaves something like one-fourth for other methods of medical attendance. There are charitable institutions, like hospitals with their out-patient departments, for attending to a good many. There is in the last resort, and only the last resort as far as the working people are concerned, the Poor-law doctor. And I am sorry to say that a very substantial proportion of the working classes of this country (and here we have got the evidence taken by the Poor-law Commissioners to bear out what I say) practically receive no medical attendance at all, certainly not until it is too late to be of the slightest use or value. That is the present position; and I think it will be generally agreed that on the whole it is unsatisfactory, and that it is about time something was done to put it on a firmer, a better organised, and an improved basis; and that is what we propose to attempt to do. Of course, in doing so, we have had to draw upon the experience of the past. It would have been very unwise on our part if we had not. And experience proves this, that up to the present, at any rate, there have been only two successful methods of coping with the problem of disease amongst the working classes—or, rather, I would say with the treatment of disease, not with the problem, because that is a much deeper and more far-reaching question, but with the treatment of disease. The first is the method of what I call insurance. Contract practice is a form of insurance for medical treatment; the works' doctor is a form of insurance; a man pays either his 3*d.*, 4*d.*, or 5*d.* a week, who may have no family at all, and who may not have any need for a doctor for a good many years to come. So that, as far as the bulk of the working classes are concerned, they have found that under present conditions insurance is the only effective method of dealing with the problem of medical treatment for them. I am therefore bound to take note of that. The only other alternative, of course, is that the State, either by the central Government or the municipality, should undertake medical treatment itself for the working population. Now those are the only two alternatives. In the National Health Insurance Act we have chosen the former; we have chosen the method of insurance for dealing with the question of medical treatment for the working population of this country.

Now the question that we have to consider is how we are to make that effective. The cardinal defect and vice of contract practice up to the present has been—and let us frankly admit it—that in some cases it had been inadequate because it has been underpaid. There are many doctors engaged in contract practice, many of whom I have had the privilege of knowing, who have given the very best service without any regard to the pay which they receive in respect of it, and they have assured me—and they are men whose word I would take without examination—that after they had given the best drugs they had, and the best time and skill at their disposal, there was really nothing left, and that it was really not a contract, but a work of charity as far as they were concerned. Now, let us recognise that fact. They are men who were engaged in providing medical service for the working classes, and making the best of the means at their disposal; they made the best contracts they could; I think very often they had driven hard bargains; but, at any rate, up to the present all the evidence at my disposal has convinced me that the work has been underpaid, and I think the medical profession will admit that it has been inadequate. That is the natural tendency of low-paid work—it becomes inadequate. That is the fundamental principle which we have accepted, and which is the basis of the proposals which I mean to submit for your consideration to-day.

Now the British Medical Association, in the year 1905, I think it was, examined into the question of contract practice. The revolt of the medical profession against contract practice did not start with the National Insurance Act; it started many years ago; there was a good deal of dissatisfaction. I have no doubt that the National Insurance Act brought it to a point, and I am not sorry for that, although I have been the victim of it. I think it has answered a very useful purpose. It was about time that the medical profession and the working classes should be brought face to face with the inadequacy of that service under present conditions. Well, the British Medical Association instituted an inquiry into the matter, and I have many a time called attention to it. I wish more of those who have been either making pronouncements upon this subject, or offering suggestions, had taken the trouble, which I have, to read the document prepared by the British Medical Association upon that occasion, and the letters which it contained, received from doctors engaged in contract practice in various parts of the country, indicating their views upon the defects and failures of contract practice, and also their suggestions as to the best methods of dealing with it. This is a summary of the replies received by the British Medical Association from a number of doctors engaged in contract practice: 185 practitioners were satisfied with the rate which they had received; 458 considered the rate inadequate; 393 stated the amounts to which the rate should in their opinion be raised. That is very interesting. There were only 393 who indicated the rates which they considered satisfactory; and in view of recent events it is exceedingly interesting to examine the suggestions made by these gentlemen at that moment as to the remuneration which they, with their experience of contract practice, would regard as satisfactory to themselves and to their patients. Now, let us have a look at them. Those who suggested 4*s.* or under were 31. That indicates that the vast majority of them were opposed to 4*s.*, and considered it utterly inadequate. There were 31 who thought it was fair pay. I want you to bear in mind that these figures include drugs; this is not merely for services, but for services and drugs. Those who suggested 5*s.* or less were 145; those who suggested between 5*s.* and 6*s.* were 52; and those who suggested 6*s.* were 78. Now mark: Out of 393 who made practical suggestions as to the amount which they would regard as sufficient, the vast majority was satisfied with 6*s.* and less. And may I point this out: Friendly Society practice, as my Friendly Society comrades here know, included treatment of tuberculosis, and very expensive it was. So that the vast majority of the doctors who sent in suggestions as late as 1905 considered 6*s.* and under adequate pay to cover tuberculosis and every form of ordinary medical treatment. Very well, that is by the way. There were 22 who claimed 8*s.*, 23 who claimed 10*s.*, and there were 29 who claimed amounts ranging between 10*s.* and 5*s.* There were very wide suggestions, but out of the total of 393 only five claimed 10*s.* and four claimed over 12*s.* Now you will see that when the Government suggested 6*s.*, apart from tuberculosis—because we had a special provision for tuberculosis—apart from tuberculosis, it was not really a very mean, meagre suggestion having regard to the facts as they were known to us at that moment. The vast majority of those who made suggestions—and I want to emphasise this—who made practical suggestions, regarded 6*s.*, and even under 6*s.*, as very adequate payment. (We were giving more because we were taking tuberculosis out altogether.) That report appeared in the year 1905. Then came the Insurance Bill. The first thing I want you to remember about the Insurance Bill is this: that it is suggested that we did not consult the medical profession. That is inaccurate. I had three deputations from members of the medical profession before the Bill was introduced. This is apart from consultations with individual general practitioners, but there were at least three consultations with bodies of medical men during the two or three months before the Bill was finally settled. I do not pretend that I do not know very much more about it now than I did then. It would be idle for me to do so. I have received so many deputations from the British Medical Association since, and I have met so many doctors and have read what they have had to say, and I have had the invaluable assistance of my friends like Dr. Addison and others who know the whole of this question, and, above all, I have had the valuable aid of Sir Clifford Allbutt and of other gentlemen who are still members of the Advisory Committee, that it would be idle for me to say that there is not much I have learnt, and the Government also, as to conditions amongst the industrial population. A man who did not learn from all these things could certainly not be fit to deal with any problem. Well, now, there are two things that I want to emphasise about the Insurance Bill as it was introduced. First of all, there was no figure fixed in the Bill for cost of medical benefit. I pointed this out at the time when I introduced the Bill. I certainly pointed it out on the second reading. It is true that in the financial calculations upon which we based our measure we had assumed that 6*s.* would be the capitation fee, but we had also provided a very considerable margin which could be drawn upon for extras and for other purposes for remunerating the medical profession where they made out a case for increased payment. As I shall point out later on, in course of the proceedings in Parliament,

owing to concessions which were forced upon the Government, that margin has to a considerable extent disappeared—not altogether, but at any rate it has gone to such an extent that the Government do not deem it advisable to draw upon it for any further grants that may be made to the medical profession. But at that time a margin was in existence intact, and we had always contemplated that that could be drawn upon for increasing the 6s., where the case could be made out, either locally or nationally, for the medical profession. We had never regarded 6s. as a final figure. Another point that I want to emphasise is this: that in the Bill as introduced—and the same thing applies even more to the Act as it has been amended in its passage through Parliament—there is no method of payment prescribed for the medical profession. It is assumed by the doctors that they must necessarily enter into contract terms on the basis of an inclusive fee. There is nothing in the Act of Parliament to say so, and if the doctors in any district and their patients represented on the Insurance Committee in any area come to the conclusion that they prefer some other method of payment, they can make arrangements as they like within the sum available. We have got to fix some limit to the amount available for the medical practitioners in any district, but as to how the money is to be distributed to the doctors and chemists, that is, subject to the consent of the Insurance Commissioners, a matter for arrangement in each individual area.

Now I pass on. The medical profession, after the introduction of the Bill, presented a number of demands to us. There are the famous six points. I think I may say with regard to most of them they have already been conceded either in the Act or in the Regulations. Some of them we cannot see our way to concede in any national settlement. For instance, there is the income limit. It would be absolutely impossible for the Government to lay down any income limit which would have the effect of excluding large sections of the industrial population from the provision which is made for medical attendance. Supposing you fixed £2. In some districts it would be too high; in other districts it would be much too low. There are large sections of the working classes, especially in prosperous times, who would be cut out altogether. In times of depression a man would be entitled to be treated by his doctor; in times of prosperity he would not. It would be impossible to work it, and as far as the Government is concerned they must absolutely decline to take the responsibility of laying down a national income limit. If the working population and the doctors in any given area like to make arrangements of that kind, they have a perfect right to do so within the terms of the Act, but as far as the country as a whole is concerned, the Government cannot take any responsibility for laying down a principle of that kind.

I will now deal with the demand of the medical profession as far as remuneration is concerned. They demanded 8s. 6d. for their services, apart from drugs and apart from extras. Well, drugs are calculated as costing something like 1s. 6d. The extras demanded by the medical profession would certainly have cost another 2s. at the very least; and unless some system of checking those extras, which I have never been able to devise or discover, be found, it would be much nearer 3s., or even 4s. Thus the demand of the medical profession was equivalent, reduced to figures, to a demand of 13s. per head of the insured population. Well, we had a good deal of negotiation with the representatives of the British Medical Association. We agreed on a good many things, but unfortunately the Association never entrusted sufficient powers to any committee appointed by them to negotiate on the question of remuneration. The committees we met were committees that had no right to reduce by a single penny their demands. It is obviously impossible to negotiate upon those terms. How could you? They have not been in a position to come down by a single sixpence. If they had there would have been some result from negotiations. But when you are meeting gentlemen who have to go back to some general meeting to be held some weeks hence to report, well, you could not negotiate, and I felt that from the beginning. We agreed, however, that the books of the medical practitioners in, I think, half a dozen representative towns and areas in England and Wales should be submitted for examination—I should have said Scotland too—should be examined by a gentleman in whose trustworthiness we could both of us confide. We agreed upon Sir William Plender. The practitioners in these towns were advised by the Association to place their books at the disposal of Sir William Plender for the purpose, and the report is a very significant one. The inquiry showed that the cost of visits and consultations both in private and in contract practice, and the supply of drugs, except in Dundee—because there drugs were supplied, I believe, by the chemists; the doctors prescribe but do not dispense—was 4s. 2d. per head of the total population. Now, after making an allowance for drugs in Dundee on the same basis as drugs in the other towns, that would come to 4s. 5d. per head of the population for attendance, for consultations at the surgery, for visits, and for drugs. After making proper allowance for the different kinds of population dealt with—including, as it did, not only those who can be insured persons, but persons of the income-tax paying class—it is probable that the cost of treating the insured class alone was covered by a sum rather less than 4s. 5d. The services rendered corresponded broadly to those in the Act. But with regard to the figure in the Act, an allowance has to be made for two important considerations. First, that in the past, considerations of poverty and thrift have reduced undesirably the amount of attendances and treatment which the persons in question have obtained. Under the Act more visits and better attendance would be provided. Now that is a very fundamental fact. It means that if attendance in future were to be on the same principle, on the same plan, on the same method, and were only provided to the same extent as they are at the present moment, 4s. 5d. would on that basis provide the same income as at present for the medical profession. But the medical profession have put the following point, and I think it is a good one—that a very large number of people at the present moment have no medical attendance at all. A still larger number of people receive inadequate medical attendance; they are not in a position to get anything better because they cannot pay for it, but they will in future receive regular attendance under the provisions of the Act, and therefore the Plender report is not by itself a sufficient basis for computing the amount which it would be fair to pay the profession under the conditions of the Health Insurance Act.

Well, now, that is the position up to the time when we wrote a letter to the British Medical Association, in the course of which we made it perfectly clear that the Government were prepared to discuss with them an increase upon the 6s., which was supposed up to that moment to be the basis of the payment for medical attendance.

We also invited them to appoint a committee which had full authority to negotiate. I think our request was a reasonable one. We said: We are prepared to increase the 6s. grant if you make your case. We are prepared to discuss the increase, but we must have somebody who has got the power to discuss the amount with us. They admitted that the committee appointed by them had not the power, and we invited them to appoint a committee. I am sorry to say their answer was to break off negotiations. I think it was very unfortunate, and I do not wish to make any other comment upon it, except it strikes me as very unbusinesslike as well. Fortunately, we have very eminent medical men who have remained on our Advisory Committee in spite of very great difficulties, and we owe a great deal to the patriotism and the public spirit they displayed. We consulted them, we have received their advice, and I need hardly tell you that it carried very great weight with the Government. They were gentlemen who knew what was due to their profession, were absolutely loyal to their profession, but they were also men who had shown by the way they had remained members of this committee under very trying circumstances that they had a very keen sense of duty to the community, and, therefore, we were bound to pay the deepest respect and to give the greatest consideration to the advice which they offered us. Let me say here, the advice which they offered us as a body and individually largely influenced the Government in the decision which they have come to as to the proposals which they would submit to Parliament. Well, now the Government have decided to increase, and substantially increase, the amount available for medical attendance upon conditions which I shall lay down later on, but the most important of which is that there shall be some guarantee and security for an improved medical service for the industrial population of this country. In order to relieve the anxiety of those who have the financial responsibility for the control and management of the approved societies I had better tell them at once that we recognise that the margin which was available for increasing the pay of the medical profession, the margin which we had provided in the figures of the Bill, has been encroached upon to such an extent by the proceedings in Parliament that we have not felt justified in breaking into it for a single penny of the increased grants which we now propose shall be available for an improved medical service. Therefore, the Government will submit to the House of Commons a proposal that this grant shall be found out of public funds.

What, then, were the suggestions that came before the Government as to the best method of dealing with the difficulties of the situation, and as to the best method of distributing the amount available for medical attendance. The first one is the one indicated clearly in the Act, that you should invite every doctor in the country to place his name on a panel, and that you should give every employed person a free choice amongst the men who appear on that register. The second method, in the event of the panel failing, was that you should hand over the money for medical attendance to be dispensed by the Approved Societies. The third method was a method which was very fully discussed at the last meeting of our committee, and it found very great favour (if you remember) amongst the members of the Advisory Committee—that we should use the money for the purpose of organising a National Medical Service.

I should like to say a word at this stage upon those three alternatives. As to handing the money over to Approved Societies, I think, on the whole, although there may be friends of mine who dissent from what I am saying, the general feeling of the Advisory Committee was against that. On the other hand, the majority were in favour of starting a National Medical Service in the event of the panel system failing. Others went beyond that, being in favour of starting from the outset on the principle of establishing a medical service, and there is no doubt that during the long time the medical question has been before the public opinion has grown in favour of organising a whole-time National Medical Service, and the feeling found remarkable expression, as I have already said, at the last meeting of the Advisory Committee. Well, I must admit that to any social reformer such a project is very alluring. It would be possible, if the amount of the additional grant which the Government propose to make were added to the money already available under the Act, to organise a service which would have many advantages. In order to form an idea of what a well-organised national service would be like in being, let us take a town of 200,000 inhabitants. At the head of the service would be a principal medical officer, who would be responsible for the working of the service, and would be not only a skilled clinician, thoroughly competent to supervise and appreciate the work of his subordinates, but also a highly efficient administrator. Immediately under him would be a staff of skilled specialists, who would help the general practitioners of the service in any case of difficulty. Then would come the general practitioners of the service, of whom some would be juuior practitioners and others senior practitioners of wide experience. These would work on an organised system, proper provision being made for night calls and other emergencies, and they would be assisted by an efficient staff of nurses. Their work would be done under competent supervision, and they would be able promptly to secure skilled assistance in cases of difficulty. Such a service would naturally work in close coöperation with the public health authority and the education authority. It would, for instance, undertake the medical treatment of school children, and so facilitate work which is urgently needed in the national interest. In so coöperating with the health work of the local authorities a National Medical Service would become a potent instrument for the prevention as well as the cure of disease. I may also say, in reply to a resolution which I got from some of my friends here, I do not agree that it would encourage malingering. Quite the reverse; it would discourage malingering, because there would be no inducement for any of the medical practitioners to give a certificate unless there were any real need for it. That is not quite the case now. We might as well face the facts. The doctor who refuses certificates certainly is not likely to make himself very popular with those who have a free choice of doctor. That is not the case with a National Medical Service. In that case the responsibility of the doctor would be to the organisation that controlled him—to the State—and he would be quite independent; therefore, undoubtedly it would be a system that would make for economy as regards the sickness fund. I do not mean to say that eventually you would not have to pay a great deal more for these doctors; because what happens in these cases is that these things develop. But as far as the other benefits are

concerned, I am perfectly certain they would be kept much better under control if you had an independent service. I think it well just to point these things out. I only want to show that in the conclusion which the Government have come to they have not come to it because they in the slightest degree underrate the value of a national service. If they have come to a different conclusion it is for other reasons which I shall indicate now.

There are undoubted advantages—great public advantages—to be derived from the establishment of a National Service. But we are here to administer an Act of Parliament, and it is an Act of Parliament which was passed a year ago. It is true that it was passed at a time when the attention of the public had not been roused to the importance of considering the question of a national service. The agitation which has occurred since has done a good deal to educate public opinion on that subject; but the public interest had not been excited, the public conscience had not been roused, and at the time the Bill was under discussion in Parliament the demand had not arisen for a national service, and therefore Parliament with absolute unanimity decided in favour of the panel system. We are here to administer that Act, and the first thing we have to do, unless that Act is amended, is to set about establishing the panel system. If the panel system were for any reason to fail, then no amendment of the Act of Parliament would be necessary in order to establish a national service. The provisions of the National Insurance Act are adequate in that case to enable us to proceed with the establishment of a national service. May I also point this out before I leave this part of the subject, because it is an important question? A national service established under the Insurance Act is quite compatible with free choice of doctors, because it means that if you have a number of whole-time doctors, and if any workman did not care to be attended by the whole-time doctors appointed he could choose his own doctor, and under the Act a contribution would be made for the purpose of assisting him in paying his own doctor, so that to that extent the free choice of doctor would be safeguarded in the case of a national service. But we are here to administer an Act of Parliament, and we are bound, first of all, to try the panel system.

Well, now, what are the actual proposals of the Government? The first point we had to consider was the position of tuberculosis. During the passage of the Bill through the House of Commons an amendment was inserted in it which included domiciliary treatment of consumption in sanatorium benefit. We have come to the conclusion that it would be more satisfactory, in the end more economical, and would conduce to a better working of the sanatorium provisions, if we come to terms with the medical profession upon the basis of an inclusive fee. We do not want any inducement offered to the practitioner, where it is better that a patient should go to an institution, to keep him on his own hands. I do not say that any practitioner would succumb to that temptation, but at the same time I think it better that there should be no conflict between those who will control the institutional treatment and the general practitioner, who will be looking after the domiciliary part of the treatment. And for that purpose we thought it very much better that there should be an inclusive fee for all the consumptive work which the general practitioner does for tuberculous persons. We propose, therefore, that, out of the 1*s.* 3*d.* which is already provided in the Act, 6*d.* would be set aside for paying the general practitioner for all the work he does in reference to the treatment of tuberculosis. It is true that at first this may be very much too high, because after all it only applies to employed persons, of whom the numbers suffering from tuberculosis will at first be small. I am sorry to say that gradually they will increase, but for the first few years I have no doubt at all 6*d.* is more than adequate. At the same time, I hope that this is an arrangement that will last, at any rate, some time.

Now I come to the second question, the question of extras. This is a question that has troubled us a good deal. We felt that the doctors ought to be paid for extra work, but, on the other hand, it is almost impossible to check a bill for extras. Who is to do it? It would be to the interest of the approved societies to do it if the money came out of their pockets; but even they could not do it. It is not to the interests of the patient to do it, because he has got somebody to pay his bill, and he naturally would like to see his doctor done well—out of public funds. Every man wants to be on good terms with his doctor, naturally, for obvious reasons. I do not think inspectors could do it. How could they check every bill for extras, and find out whether the right charge had been made, whether the journeys were there, measure the mileage, and so on?—it could not be done. Therefore, if you are going to give a blank cheque for extras to any profession—I would not trust even the legal profession, and therefore I am really not casting any reflection upon a profession which I do not belong to; I would not trust any profession—if you are going to give a blank cheque to the profession, you must know the limit of your liability, and the doctors must make their own arrangements within the amount that is provided for medical attendance. What we do say is: At the present moment so much is provided for medical attendance; that is inadequate; we have examined the problem, and we think that if we provide so much additional it will be sufficient; but you, the doctors, must somehow make your own arrangements as to how you think that can best be distributed so as to be fair to you, fair to those who do the extra work, and at the same time perfectly fair to the patient. We have therefore decided that the cost of "extras" (apart from major operations and other specialist services, which, of course, are not included within medical benefit under the Act) must be provided from the fund which we set aside for medical attendance.

Then comes the very difficult question of drugs. Sir W. Plender's report shows that the drug bill of the doctors in the five selected towns was something like 5*d.* per head. That was simply the cost price of the drugs to the doctor. To that we have to add a reasonable allowance for profit. I do not know what the profit is upon these things, but at any rate it must have been under 1*s.*, including profit. We propose, on the other hand, that in future there shall be 1*s.* 6*d.* set aside for drugs. When you come to drugs there are two opposite dangers. One is that you should fail to have an adequate supply of proper drugs, and up to the present that has been the greatest danger. Many doctors have told me quite frankly that in contract practice they could not afford to supply proper drugs. In some cases drugs are very expensive, and the money payment which was made was quite insufficient to enable them to pay for the more expensive kind of drug. At any rate, there was a tendency to keep the drug bill down. That was one tendency; but there is another tendency, and that is a tendency to what I call uneconomical prescribing. Now that the doctors have no responsibility for supplying the drugs, I am just a little afraid that some will run to the other extreme; and that when a man comes who has not anything particular the matter with him, but who thinks himself very bad, a doctor in order to get rid of him will say, "Now, here, take that to the chemist." There might be a tendency of that sort to run rather into extravagance in the matter of drugs. We have got really to check that side as well. It is a very difficult thing in our arrangement to guard against both these dangers. It presents a very difficult and complex problem. We have got an ingenious, but, I think, a very practical, suggestion for dealing with it which I will presently explain.

Those are the three things I want you to bear in mind when I come to the details of finance. The first is that we propose that the treatment of tuberculosis, so far as dealt with by the general practitioner, shall be paid for upon the basis of an inclusive fee. We propose, in the second place, that we should find a fixed amount for doctoring and drugging, and that this should include, as I have already explained, such extras as come within medical benefit. And the third point is, that we have to find some means by which there will be a guarantee, at any rate, of a sufficient supply of drugs, but not for the extravagant drugging of insured persons.

Now I will tell you what we propose. The present figure, including drugs, is 6*s.*, and if you include the 6*d.* for tuberculosis as above explained it is 6*s.* 6*d.* We propose to increase that amount by 2*s.* 6*d.* That means 9*s.* in all for the non-institutional treatment of all diseases amongst the insured population. How is that to be distributed? That is a very difficult problem. The doctor says, "If I am simply to come in last, as second or third mortgagee, with an unlimited liability in respect of drugs and administration and everything else, I do not know where I am; the first thing I want is to know what is the minimum I am assured of." I think that is a very reasonable view. He also says, "If drugs to an unlimited amount are a first charge on that 9*s.*, then it means that if there is an epidemic in a district and I am worked very hard, the harder I am worked the less I get." That is obviously a very unfair arrangement. That is what we have to deal with, and we felt that, at any rate, there ought to be a figure which the doctor could feel, provided an assured sum of money for payment for his services. We propose—I do not like to use the word "guarantee" because it has been used in other senses, and it has become a sort of controversial word—but 7*s.* is to be assured as the basis of the amount which is to be paid to the doctor for his services. That will include extras and tuberculosis. Then there will be 1*s.* 6*d.* for the drugs. That brings it up to 8*s.* 6*d.* What about the remaining 6*d.*? I will tell you what we propose to do about the remaining 6*d.* The doctor is the only person we can trust to check extras; he is the only person we can trust to check drugs. We are going to leave that 6*d.* there between the doctor and the chemist. It will provide £320,000. That £320,000 will be available if the drug bill exceeds the 1*s.* 6*d.* provided; and where it does not exceed that 1*s.* 6*d.* it will be available for the doctor. That is not the case with regard to the 1*s.* 6*d.* I want to make it clear, because we have come to the conclusion that, at any rate up to 1*s.* 6*d.*, there ought to be no inducement to the doctor to cut down the drugs. We want the best drugs available in the market for the treatment of the industrial population of this country in the interests of the State, as well as for humanitarian reasons, and we realise that it will be necessary to have 1*s.* 6*d.* at least for the provision of drugs. Then comes this case. The doctor will say, "Supposing there is an epidemic in a given district, and there is an abnormal demand for drugs, it is rather hard on me that that 6*d.* should be drawn upon just when I am worked harder." I think his case is a good one. We therefore propose to provide a Central Fund to deal with abnormal cases of that kind. If we are satisfied that there has been an epidemic of some kind which has made an abnormal demand for drugs in a given district we shall make a grant from the Central Fund in respect of the normal amount of drugs needed. I ought to make it clear that this is outside the 9*s.*; this is the abnormal drug fund. Perhaps I had better go through the figures again: 7*s.* for payment of the services of the doctor, to include "extras," to include tuberculosis; 1*s.* 6*d.* to provide drugs; 6*d.* as the additional sum available if that 1*s.* 6*d.* is exceeded; if it is not exceeded then that 6*d.* passes to the doctors' remuneration fund; that comes to 9*s.* Then, outside that, there will be a central fund for the purpose of meeting cases of epidemics where there is an abnormal demand for drugs.

I have worked out these figures upon the basis, if Sir William Plender will allow me to call them so, of the Plender figures. I have also made investigations of my own in districts which I know, and I have come to the conclusion that this figure represents a very considerable increase in the amount paid to doctors for their services—an enormous increase. Anybody who likes to work it out can do it for himself. If you work it out in the districts where Sir William Plender has made his investigations you will find, if you put it on this 9*s.* basis, that the increase in the remuneration of doctors will be a very substantial one indeed.

That leads me to the next point. If the remuneration is increased, the service must be improved. Up to the present the doctor has not been adequately paid, and therefore we have had no right or title to expect him to give his full service. In a vast number of cases he has given his services for nothing or for payment which was utterly inadequate. There is no man here who does not know doctors who have been attending poor people without any fee or reward at all. I have got three conditions which I am going to lay down as the result of this increased provision. One is that the doctor who acts on the panel shall agree to give, without further charge, those medical certificates which an insured person will require to enable him to get sickness or disablement benefit; the certificate in the first place that he is unfit for work; the certificates, where necessary, that he continues to be unfit for work; and when he is restored to health, a certificate for the society to this effect. Secondly, we also ask that those practitioners who act on the panels will keep simple records of the patients whom they treat, the illnesses from which they suffer, and the attendances given. That is new in respect to the industrial practice of this country. Though we are providing increased remuneration, I frankly admit we are also asking for increased service. We know that doctors dislike book-keeping above all things, but we know also that they desire the advancement of medical knowledge, and we feel confident that they will coöperate with us in this matter. We on our part undertake that the records required shall be of the simplest character that will give the necessary information. Thirdly, and chiefly, the service must be

improved in certain definite respects, as compared with what it has been possible to give in the past.

It will be the duty of the Commissioners, when setting out the conditions for the new grant and disbursing it to the committees, to see that a proper standard is reached and maintained, not merely in respect of the number of visits paid or the number of times a patient is seen at the doctor's surgery, but also in respect of the amount of time and attention given, and also that where necessary the practitioner should resort to those modern means of exact diagnosis the importance of which I am advised is increasingly recognised in the profession.

We think it is better that we should try these arrangements as an experiment and see how they work. I propose, therefore, that the arrangements which are made on this basis shall be made for a term of years—not too long, and not too short—otherwise we do not get the experience. It is no use trying a year's experiment—I think you must have at least three—and I suggest, therefore, that the financial arrangements should, for three years, be made on this basis, and that at the end of that period there should be a reconsideration of the whole position. Before I quite leave this I ought to mention this: As far as the rural districts are concerned the drug problem does not arise between the doctor and the chemist; in very few of them are there any chemists available, and therefore the doctor will have to provide his own drugs. That means that in the rural districts the whole of the 9s. will be available for paying the doctor, he providing the drugs. It would be quite impossible in some of these areas to compel patients to walk two, three, four, and five miles in order to get to a chemist in a neighbouring town to get a prescription dispensed. Therefore, in those cases it will be necessary to make special arrangements whereby the doctors will provide the drugs themselves. In these cases, of course, the whole of the amount set aside will be available for payment to the doctors for drugging as well as doctoring; and, of course, there is no doubt at all that that to a very large extent will be taken into account when the doctors among themselves come to discuss the question of mileage. The rural doctor will be in a better position than the town doctor as far as the drugs are concerned; on the other hand, he will be in a worse position as far as the distances are concerned which he has to travel to see his patients.

I really apologise for taking up your time, but it is very important to put these things quite fully before you; and it is still more important, because unfortunately I shall not be able to put it at this length in my answer in the House of Commons this afternoon, and with your permission I suggest that what I have said in the way of information should be sent out to the press after I have made my announcement in Parliament.

The next step rests with the Insurance Committees. It will be their duty to consider arrangements in their respective districts, and we propose that at the earliest possible moment meetings of the chairmen and of the clerks of the Insurance Committees should be summoned to discuss their arrangements with the Commissioners. Therefore, it will be unnecessary for me to go fully into that question at this stage. We submit these proposals to you for your consideration. We think they are fair in the interests of the medical profession. We wish to be fair to that profession; I say so in spite of everything that has fallen in controversy, and I think we are fair—indeed, I venture to say that our proposals are liberal. I do not say that we are proposing anything in the way of remuneration which is beyond their merits or deserts, but we want a good efficient service for the industrial population of this country. We realise that you cannot secure it unless you pay for it, that you cannot secure it unless you pay something that will make the persons upon whom its success primarily depends feel that they are adequately paid for it, and that the services which they render are recognised by the State; we realise that not merely in the interests of humanity but in the interests of the well-being of this country, the adequate and effective treatment of disease, above all the early treatment of disease, perhaps, still, more important, the prevention of disease—as it can be prevented, I think, in a very considerable number of cases—all these are of such enormous importance to the well-being of this great community, of which you and I are members, that I make no apology in submitting these proposals to you on behalf of the Government.

SIR CLIFFORD ALLBUTT.

SIR CLIFFORD ALLBUTT: Mr. Chancellor, I have a very grateful duty this morning; it is to thank you for the kindly and sympathetic, and, if I may be allowed to say so, extremely lucid and expressive manner in which, this morning and on all occasions when you have allowed us to meet you, you have put these matters before us. If there should be anything—I do not say that there is—in your speech of this morning which lends itself to argument, I am sure you will understand, and it will be understood by my colleagues, that this is not the time or the place to pursue points which, after all, are matters of secondary importance, or at any rate of secondary consideration this morning. I have, so far as I may, broadly to express simply the impression which your address has made upon me, and I hope I may speak also for my colleagues; I understand my colleagues desire me to express on their behalf their indebtedness to you for the observations you have made, and to go as far as we may in saying that we believe that the statements you have made will prove to be acceptable to the profession at large. You will understand that our numbers on this side of the house are a little depleted; that although we are formally members of the Advisory Committee, it would be very unwise for us on the spur of the moment without full consideration to say anything that might seem, even by our mouths, to commit the profession to an entire and complete acceptance of all that has fallen from you this morning. But I cannot but think, so far as my impressions go, from discussing with my friends and from the general tone of the profession, that we have now before us a scheme which, in my opinion, ought to be acceptable to the members of the profession at large. May I go into a more personal matter? It is this: That I and my friend, Professor Woodhead, have not, perhaps, a unique, but a very great opportunity of knowing what class of men are going into practice and into what kind of practice, and I think from a few words that have passed, Professor Woodhead and myself believe the proposals you have made this morning will be such as to draw into the profession not necessarily academic experts, but the great bulk of really well-trained, scientifically-trained men, and that is a point which I am sure has been the chief one in your own mind. You have given us credit all along for not being, as they say, out merely for money. It is not that we are desirous individually, or that my colleagues and the members of the profession are anxious now simply to put money into their own pockets. I must throw considerable responsibility on yourself. You have throughout the debate on the Insurance Bill and in the whole conception of this scheme aroused the profession to see that there is something far more to be done than merely to cope with sickness; it has been just coped with already. Something far more is before us, and you have led us to see that there is a higher ideal, and that we are looking forward now, and have been looking forward, to such proposals being made as shall draw to this great work not merely a contented profession but an enthusiastic profession; that it shall not merely find daily work for a certain number, and perhaps drift down to the less well-trained men or those capable of taking less large views of medicine. The crusade against tuberculosis is one of the first of several crusades—there are many other crusades to come. We must bring in this great work of prevention which shall reduce, shall I say, first, the enormous cost—but far more than that, the terrible burden and misery which is produced upon our whole nation and the whole face of the earth, in this climate or the other, by the several terrible plagues—preventable plagues—which afflict mankind. You know the old scheme, merely hand-to-mouth routine of so-called club practice (I use the word for convenience sake), individual contests between individual persons and individual doctors—that is not the idea that you have looked for or we have looked for. We wish to bring into the profession men of trained minds who can deal with preventive medicine in the way it has been dealt with on the Isthmus of Panama, where the plagues of various kinds were so terrible that the work was abandoned in the face of disease; yet now I am given to understand (it may be a little exaggerated) that the Isthmus of Panama is almost a health resort for people to go to for the sake of their health, and infectious diseases are practically banished from that part of the world.

Now, why should not this be done in England? I admit that the proposals previously made were not such as to draw the best class of men into this work, but I think now there is a considerable hope that you will have a class of men drawn into this particular kind of practice who are most enthusiastically devoted to preventive medicine, as well as, of course, to the mitigation of the sufferings of individuals; and we hope that in the course of half a generation, or even less, the increased terms offered to us to-day may be amply and over and over again saved by the greatly diminished cost of sickness to the community and by the enormous diminution of human misery.

Medical News.

UNIVERSITY OF OXFORD.—The following degrees have been conferred:—

Master in Surgery.—H. S. Souttar.

Bachelor of Medicine and Surgery.—N. S. Lucas

UNIVERSITY OF CAMBRIDGE: STATE MEDICINE SYNDICATE.—At the October examination in Sanitary Science the following candidates satisfied the examiners in both parts of the examination:—

Alakh Behari Arora, *Archibald Turner Macleod Blair, William Brown, James Charles Gordon Carmichael (Captain, R.A.M.C.), Alfred Joseph Clark (King's), Thomas George Duncan Cooper, James Thomson Dick, George Fletcher, Samuel Nicol Galbraith, Codanda Madiah Ganapathy, Thomas Sidney Gibson, Lionel Chattock Hayes (Lieutenant, R.A.M.C.), Charles Brehmer Heald (Caius), Thomas John Hughes, John McGilchrist, George Macleod, Raghunath Kashinathjee Mhatré, Hugh Walker Moir, John McIntosh Morgan, John Selfe, Charles Henry Shinglewood Taylor (Caius), Gerald Walker (Trinity), and Adam White.

* Distinguished in Sanitary Science.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (University of Maryland):* Dr. E. Zueblin, of Pittsburg, is expected to become Professor of Medicine in succession to Dr. Mitchell.—*Berlin:* Dr. W. Sigwart, *privat-docent* of Gynæcology, has been granted the title of Professor.—*Bologna:* Dr. C. Guadrone has been recognised as *privat-docent* of Internal Pathology, Dr. P. Ballico as *privat-docent* of Dermatology and Syphiligraphy, and Dr. Zamboni and Dr. Pincharle as *privat-docenten* of Pædiatry.—*Catania:* Dr. G. de Angelis has been recognised as *privat docent* of Internal Pathology.—*Genoa:* Dr. E. Bozzi, Extraordinary Professor of External Pathology, has been promoted to the Ordinary Professorship.—*Modena:* Dr. Sanfelice, of Messina, has been appointed Professor of Hygiene.—*Munich:* Dr. W. Hueck has been recognised as *privat-docent* of Pathological Anatomy.—*Naples:* Dr. A. Romano has been recognised as *privat-docent* of Psychiatry, Dr. G. Orsi as *privat-docent* of Hygiene, Dr. G. Ceresole as *privat-docent* of Electro-therapeutics, and Dr. I. Belfiore as *privat-docent* of Medical Chemistry.—*Palermo:* Dr. G. Scaduto has been recognised as *privat-docent* of Dermatology and Syphiligraphy.—*Saratoff:* Dr. S. P. Vertogradoff, of St. Petersburg Military Medical Academy, has been appointed to the chair of Forensic Medicine.—*Turin:* Dr. Uffeduzzi has been recognised as *privat-docent* of External Pathology.

The Epsom Medical Scholarship, tenable at University College, London, has been awarded to K. T. K. Wallington.

THE GUILD OF ST. LUKE.—On Oct. 22nd, evensong at St. Paul's Cathedral was attended by the members of this guild, when the Provost, Mr. George Cowell, Sir Dyce Duckworth, Mrs. Scharlieb, and others were present. The sermon was preached by the Bishop of Stepney.

THE NEEDS AND AIMS OF DENTAL EDUCATION.—Sir Rickman J. Godlee, President of the Royal College of Surgeons of England, in distributing the prizes on Oct. 22nd to the students of the Royal Dental Hospital of London, gave an interesting and outspoken address on the methods and aims of dental education, and the great work awaiting the scientific dentist of the future. Because dentistry was now regarded by some as a rather limited specialty, there was all the more need for its practitioners to maintain a wide outlook not only upon their profession, but upon things in general. The reason why dental surgery was not generally looked upon as of equal standing with the other forms of medical specialism was because the professors of the other specialties were always in the first place completely qualified medical practitioners; while the dental profession, having its own definite aim in view from the beginning, started out with the project of acquiring only a limited amount of medical knowledge. Moreover, their profession was overshadowed by an unsought and detestable alliance with an enormous number of unqualified men. Hence the confusion in the minds of the public. Sir Rickman Godlee, advocating a complete medical education for dentists, spoke of the wide field of investigation awaiting the researches of the scientific dentist, and he instanced the neglected study of the effects of diseases of every kind upon the development and decay of the teeth. He urged the dental profession not to leave this important work to the physician, the surgeon, or the pathologist; let them be the pioneers in this campaign. He believed that the general health of the community was much more in their hands than many of them realised. With reform there would cease to be any more need for the 20,000 unqualified practitioners. In the face of all that remained to be achieved by scientific dentistry, could any of them really wish to be cut adrift from the medical profession, or seriously maintain that dentistry was more closely allied to engineering than to medicine? The dental student who could not afford the time and money to take the whole medical curriculum should get more grounding in principles and less instruction in scattered details. His knowledge of medicine and surgery, without being elaborate, should cover the whole field, so far as fundamentals were concerned, and not leave parts wholly untouched. The dentist should be placed in a position to understand every medical problem and to appreciate all the advances of medical science. While it was at present impossible for every dental student to go through the complete medical curriculum, special classes in medicine and surgery might be provided, instead of interminable lectures from which he was supposed by a special instinct to be able to select what would be of use to him.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Select Committee on Patent Medicines.

THE Select Committee appointed by the House of Commons to inquire into the law relating to the sale and advertisement of patent medicines resumed the hearing of evidence on Thursday, Oct. 17th. Sir HENRY NORMAN was in the chair.

Dr. NORMAN WALKER, treasurer of the Royal College of Physicians, Edinburgh, a member of the General Medical Council, and physician for diseases of the skin at the Edinburgh Royal Infirmary, was the first witness. He produced a number of wax models, coloured to represent the effect which the use of certain drugs had upon the skin. He said that he produced them for the purpose of showing to the committee the disastrous consequences which followed the unintelligent use of potent drugs administered either internally or externally. Cases were not infrequent where drugs, good in themselves and beneficial if taken under skilled medical guidance, were taken by uninstructed persons for long periods with results most disastrous to the skin. His point in regard to these drugs was not that they were patent or non-patent. There were preparations in the Pharmacopœia which produced evil effects if improperly used. In all cases they ought only to be taken under the supervision of a medical man, and for such periods as might be prescribed by him. He went on to say that a case had come under his notice in the out-patient department of a hospital where a man who had suffered from rupture had for 20 years used externally an advertised "cure" which consisted largely of turpentine. The constant application of this preparation had set up severe irritation of the skin. Perhaps the most important point which he desired to bring to the notice of the committee was in regard to the drugs which, taken internally, produced eruptions. These drugs might, or might not, be patent, but his point was that the person who took them had generally no knowledge of the effects which they would produce.

The CHAIRMAN: Your point is to bring home to the committee the serious results which may occur from the application of certain substances, no matter by whom administered.

Dr. NORMAN WALKER: I should like the committee to realise that. He went on to say that the rashes produced by some drugs resembled the rashes of certain fevers. An eruption was produced by the use of antipyrin very similar to measles. The taking of opium or morphia frequently produced a rash so exceedingly like scarlet fever that it was sometimes almost impossible to distinguish between the two. The too free use of bromides and iodides was very serious. Arsenic was an exceedingly useful drug when properly used, but the consequences of its abuse were very serious. It might, for instance, cause thickening of the skin on the palms of the hands or on the soles of the feet, which in turn might result in cramp. The witness made the following suggestions to the committee: (1) No proprietary medicine should contain any drug which might do serious harm; (2) all active ingredients should be stated on the package containing the medicine; and (3) a board of qualified men should decide what were active ingredients. He went on to say that the Association of County Councils in Scotland had unanimously passed a recommendation to the effect that the name and quantity of the ingredients should appear on the label, that the label should be a guarantee, and that the provisions of the Sale of Food and Drugs Act should apply to such preparations.

Mr. GLYN-JONES: Is the general effect of your evidence that no layman ought really to take medicine except under the supervision of a medical man?

Dr. NORMAN WALKER: Yes, I think so; but that is, of course, an ideal to aim at.

Mr. H. LAWSON: Is an additional risk likely to be run under the National Insurance Act, where drugs will be obtained freely, and therefore more frequently by the great body of poor people for supposed diseases?

Dr. NORMAN WALKER: I hope there will be no encouragement to persons to get a prescription and go on using it indefinitely without again seeing a medical man.

Mr. H. LAWSON: But free drugs will be a great temptation to those who are fond of drugs. I understand that you suggest that there should be a legislative veto on the advertising of all proprietary medicines that pretend to cure cancer, rupture, deafness, and rheumatoid arthritis.

Dr. NORMAN WALKER: Yes, I think that there should be.

Mr. G. S. PATERNOSTER, assistant editor of *Truth*, gave evidence of the steps which had been taken by that journal over a series of years for the exposure of "quack" advertisements. He stated that it was remarkable how the names of persons suffering from certain diseases became known to vendors of "quack" medicines. There was a trade in their addresses. The charge for lists of consumptives was rather higher than for persons suffering from other diseases, because consumptives were the most profitable of purchasers of secret remedies.

The committee adjourned.

Mental Deficiency Bill.

Further consideration was given on Thursday, Oct. 17th, by a standing committee of the House of Commons to the proposal to set up a board of control under the Mental Deficiency Bill. The Home Secretary's amendment lays down that the board shall consist of 15 commissioners, 12 of whom shall be paid and four of whom shall be medical men. Mr. WEDGWOOD took exception to the provision that four of the members should belong to the medical profession, and he moved its omission. He stated that he objected to give medical men any hand in the management of the homes for the feeble-minded. His line of argument was that there was a class of persons nowadays who advocated the perfection of the race by the sterilisation of the unfit. Their object was to make the homes of the feeble-minded not places where the inmates were to be cured, but places where they should be incarcerated and never be allowed out again to procreate children. Most of these new ideas, which he utterly abhorred, came from medical men. Therefore he wanted the provision for the inclusion of four of the profession on the board of control eliminated. Mr. MCKENNA strongly deprecated any such exclusion. He said that the board would not only take over the new duties provided for in the Bill, but also the duties of the Lunacy Commissioners. Of the eight Lunacy Commissioners four must be medical men, so that to accept the honourable Member's suggestion would involve the amendment of the Lunacy Acts. While half of the Lunacy Commissioners were medical men, only one-third of the board of control would belong to the medical profession. Mr. WEDGWOOD'S proposal was negatived without a division.—On Tuesday, Oct. 22nd, Mr. MCKENNA made a statement

to the effect that it was the intention of the Government to carry the Bill this session. Not only did they intend to get it through Committee, but also to give time for the report stage in the House of Commons. On Tuesday the Committee continued its discussion with regard to the appointment of members of the Board of Control, and an amendment was carried against the advice of the Government that the three unpaid Commissioners should be appointed by the Home Secretary and not by the Lord Chancellor.

Medical Benefits in Wales and Scotland.

The Regulations in regard to the administration of medical benefit in Wales and Scotland under the National Insurance Act have been presented to Parliament and issued as a White Paper.

The Chancellor of the Exchequer and the Medical Profession.

Mr. LLOYD GEORGE's statement on the increased financial provision which the Government is proposing to grant for the remuneration of medical men under the Insurance Act was made in great detail to the Advisory Committee early on Wednesday, Oct. 23rd. The communication which he made to the House of Commons later in the day contained merely an outline of those proposals, but it was listened to with lively interest. Members are naturally inclined to speculate what the effect of a capitation grant of 7*s*., inclusive of various extras but exclusive of drugs, will have on the medical profession, but the tendency is to await the expression of its collective opinion. As neither Mr. LLOYD GEORGE's speech to the Advisory Committee nor the explanatory printed statement which he promised were in the hands of Members on Wednesday evening, it was impossible to examine with care the proposals now put forward on behalf of the Government.

HOUSE OF COMMONS.

THURSDAY, OCT. 17TH.

Water-supply of Peamount Sanatorium.

Sir JOHN LONSDALE asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that, although thousands of pounds of public money were being spent by the Women's National Health Association upon the Peamount Sanatorium, the water-supply of the place had been found to be insufficient in quantity and unfit for dietetic purposes; would he state who was the medical inspector of the Local Government Board who inspected the site and reported it to be suitable for a sanatorium, and why the inspector did not satisfy himself that there was a sufficient supply of pure water for a large institution before recommending the site; would he state approximately how much money had been spent in endeavouring to find water at Peamount; and whether he now considered that this sanatorium was fit for the reception of patients, seeing that all drinking water has to be carted a distance of two miles.—Mr. BIRRELL replied: The Peamount site was selected by the Women's National Health Association after it had been examined and most favourably reported on by a well-known Dublin firm of architects and sanitary engineers, and subsequently inspected by three eminent Dublin physicians, who endorsed and confirmed the report. The Local Government Board were not asked to send a medical inspector prior to the decision to select the site, but ever since the actual commencement of works of construction these have been frequently inspected by officers of the Local Government Board, and no payments from public funds have been made except after being duly submitted to the Board and authorised thereby. The water-supply on investigation is found unsuitable for dietetic purposes, but the sinking of a well which will yield, it is believed, an adequate supply of water for all purposes is now progressing. The sanction of the Local Government Board to the opening of the institution as a whole will be given when a thoroughly satisfactory water-supply for a large establishment of the kind has been obtained and not before; but owing to the urgency which was the primary consideration for the establishment of the sanatorium, the Board's inspectors have felt justified in recommending that during the sinking of the well a limited number of patients should be admitted, for whom a supply of drinking water of the most excellent quality can be provided from a spring outside the property, the necessary arrangements having been made for this purpose. I am informed that the expenditure incurred in connexion with the water-supply at present is well under £200.

Sanatorium Benefit in County Cork.

Mr. T. M. HEALY asked the Chief Secretary to the Lord Lieutenant of Ireland whether the share of the county and borough of Cork of the one and a half millions granted for sanatoria on a population basis was £13,182; whether only £9000 was proposed to be allotted; how much of the £145,000 given to Ireland was the Women's Health Association getting for the erection of the sanatorium at Peamount, county Dublin; on what principle was this allocation made; and were counties like Cork, which could derive no benefit from Peamount, to be deprived of their due proportion of the sum provided by Parliament.—Mr. BIRRELL wrote in reply: If the whole of the £145,000 were distributed between counties and county boroughs in proportion to population, the share of Cork county and borough would be approximately £13,000. The share of the county and borough in the sum of £120,000 at present available for distribution on this basis is £10,750, and it is proposed to allot this amount immediately. A further sum will be allotted at a later date when the amounts to be charged against the shares of counties which have entered into contracts with the Women's National Health Association instead of making provision for themselves have been ascertained. By this means such part of the £25,000 originally allotted to the Women's National Health Association as is expended on behalf of particular counties will be recovered from the shares of these counties calculated on the population basis, and will be available for distribution on the same basis as the £120,000 now being allotted, leaving only the remaining portion of the £25,000 (which will represent expenditure incurred in the interest of the country generally in respect of temporary provision for the counties which are contemplating building sanatoria for themselves and in respect of accommodation, whether for adults or for children, which will be available in the future for any County Insurance Committee which may apply for it) as a final charge against the £145,000 grant as a whole.

Treatment of Tubercular Patients in Munster.

Mr. GUINEY asked the Secretary to the Treasury whether the Irish Insurance Commissioners had completed arrangements for the treatment of tubercular patients in Munster; if so, in what counties; how many tubercular patients had been treated in Munster; and what percentage this number bore to the total number of tubercular persons insured in Munster.—Mr. MASTERMAN replied: Provisional arrangements for the treatment of tuberculous insured persons have been made by the Insurance Committee of each county and county borough in Munster. Seventeen persons have been recommended for sanatorium benefit by the several committees. All these 17 persons have been actually sent to institutions for treatment, the numbers from each Insurance Committee being as follows: Clare county, 2; Cork county, 1; Cork county borough, 1; Kerry county, 5; Limerick county, 2; Limerick county borough, 2; Tipperary South Riding, 2; Tipperary North Riding, 1; Waterford county, 1.

The Insurance Act and Drugs.

Sir ARTHUR MARKHAM asked the Secretary to the Treasury whether he had sanctioned Clause 28 of the regulations, lately issued by the Insurance Commissioners, which provided for the purpose of determining the amount of remuneration payable to medical men, that the committees should determine the total amount to defray the cost of medical benefits and should deduct therefrom certain specific charges, and that the sums remaining should be paid to medical men; and whether, in view of the declared policy of the Government that insured persons should have the benefit of having the best drugs irrespective of cost, he would say whether, if under this regulation a medical man prescribed expensive drugs, his salary would be reduced accordingly.—Mr. MASTERMAN replied: The draft regulations now before Parliament cannot be interpreted except in connexion with the general question of remuneration for medical benefit under the Insurance Act. This question is still under the consideration of the Government, and the Chancellor of the Exchequer hopes to make an announcement on the subject within a few days.

Dust and Lead in Potteries.

Mr. NOEL BUXTON asked the Secretary of State for the Home Department whether the new regulations with regard to dust and lead in potteries had been put in force according to his intention already expressed.—Mr. MCKENNA answered: The efforts which have been made to settle by negotiation with representatives of the employers and workers the objections which have been taken to the draft regulations, though generally successful, have failed in respect of one of the chief points at issue. It has therefore become necessary for me to direct an inquiry to be held under Section 81 of the Factory Act, and I hope this will take place in the course of next month.

MONDAY, OCT. 21ST.

The Government and a State Medical Service.

Sir JOHN LONSDALE asked the Prime Minister whether the Government had decided to establish a State Medical Service; and, if so, whether the scheme would be extended to Ireland.—Mr. ASQUITH said in reply: The Government have not come to any such decision.

The Financial Provision for Medical Benefit.

Sir PHILIP MAGNUS asked the Chancellor of the Exchequer whether he could now state what additional sum he was prepared to recommend Parliament to set aside for the provision of medical benefit under the National Insurance Act; and, if so, whether he could state what would be the normal amount offered for each insured person, with or without drugs, and what arrangements had been suggested for securing, where necessary, exceptional medical or surgical treatment.—Mr. LLOYD GEORGE replied: I hope to make a statement on this subject in the course of a few days.

Sir PHILIP MAGNUS: What day?—Mr. LLOYD GEORGE: Probably Wednesday.

The Opium Agreement.

In reply to Sir J. D. REES, Mr. ACLAND (Under-Secretary of State for Foreign Affairs) said that there was no present intention of withdrawing from the Anglo-Chinese agreement providing for a progressive diminution of opium production, as His Majesty's Government wished to make full allowance for the difficulties in which the Central Government of China was placed. But the question might have to be reconsidered hereafter in the light of circumstances.

TUESDAY, OCT. 22ND.

Dublin Practitioners and Friendly Society Appointments.

Mr. DEVLIN asked the Chancellor of the Exchequer whether he was aware that, at a meeting of the members of the medical profession resident within the county borough of Dublin, held at the Royal College of Surgeons on Sept. 24th, resolutions were adopted to the effect that the medical practitioners of Dublin were of the opinion that those gentlemen who accepted office from friendly societies at terms which had been condemned as inadequate by over 95 per cent. of the medical practitioners of the city were endeavouring to obtain practice by unworthy means, and that all the licensing corporations in Dublin were requested to take official notice of such resolution; whether he was aware that, as the direct result of these resolutions, several doctors had resigned their positions as medical officers to approved societies, and that a number had given notice to terminate their contracts on Dec. 31st, 1912; whether he was aware that the above resolutions were passed with the concurrence of some of the Irish representatives on the General Medical Council; and if, in the case of a medical practitioner being struck off the register, there was no appeal from the decision of the General Medical Council, would he undertake to see that steps were taken to amend the Act of 1858 in this respect.—Mr. LLOYD GEORGE said in reply: I am aware of the resolutions passed at the meeting of Sept. 24th, which, however, related to the licensing corporations and not to the General Medical Council. I understand that the General Medical Council have always held that they could not deal with questions of remuneration, and in any case their decisions are open to review in the courts.

Housing of Rosyth Workers.

Mr. JOHN WARD asked the Secretary for Scotland whether his attention had been called to the recent report of Dr. J. R. Currie, medical officer of health for the Dunfermline district committee, on the housing

of Rosyth workers, and what action he proposed to take in the matter.—Mr. MCKINNON WOOD answered: The answer to the first part of the question is in the affirmative. The Local Government Board for Scotland have made further inquiry into the matter. I am informed that the district committee meet to-day to consider the medical officer's report, and upon learning their views I hope to be in a position to decide what further action is called for.

The Milk-supply.

Mr. CHARLES BATHURST asked the President of the Board of Agriculture whether he favoured proposals for organising in this country, as in the United States, a milk-supply that was certified as free from dirt, disease, antiseptics, and added preservatives; and, if so, whether, following the recommendations of Sir Thomas Barlow's Committee, he would consider the desirability of constituting a proper authority to certify the milk of those dairy farmers who desired such certification.—Mr. RUNCIMAN replied: I am aware of the proposals of the committee to which the honourable Member refers, and I will confer with the President of the Local Government Board on the subject.

Nurses and Insurance.

Mr. BUTCHER asked the Secretary to the Treasury whether a trained nurse, who belonged to no institution and who carried on her profession entirely on her own account, was liable when she was engaged in nursing to be treated as an employed person; and, if so, by whom were the contributions payable in respect of her under the National Insurance Act to be paid.—Mr. MASTERMAN answered: The Insurance Commissioners are advised that a trained nurse working on her own account is ordinarily employed under contract of service. Insurance contributions are, therefore, payable in respect of her so long as she is employed at a rate of remuneration (inclusive of the value of board and lodging) not exceeding £160 a year. The person by whom, or on whose behalf, she is engaged is to be regarded as the employer.

Mentally Defectives in Inebriate Institutions.

Mr. ASTOR asked the Secretary of State for the Home Department to state the number of persons compulsorily detained in inebriates institutions in 1910 and 1911, and how many in each year were classified as being feeble-minded or otherwise mentally defective.—Mr. MCKENNA furnished the following reply: The number of persons detained on Jan. 1st, 1910, was 917; on Jan. 1st, 1911, 867; of these 78 and 67 could at once be definitely classified as so defective as to require permanent control. A large number of others were defective in a minor degree.

WEDNESDAY, OCT. 23RD.

Remuneration of Medical Profession under Insurance Act.

Sir PHILIP MAGNUS asked the Chancellor of the Exchequer whether he could now state what additional sum he was prepared to recommend Parliament to set aside for the provision of medical benefit under the National Insurance Act; and, if so, whether he could state what would be the normal amount offered for each insured person, with or without drugs, and what arrangements had been suggested for securing, where necessary, exceptional medical or surgical treatment.—Mr. LLOYD GEORGE, in reply, referred the House to his full statement made earlier in the day to the Advisory Committee, which statement he outlined clearly.[1]

Viscount HELMSLEY: Does the 8*s*. 6*d*. include mileage?

Mr. LLOYD GEORGE: Yes; it is an inclusive fee.

Mr. GINNELL: The right honourable gentleman has not said how his alterations, including a further contribution from the Exchequer for greater efficiency, will apply to Ireland.

Mr. LLOYD GEORGE: The Irish Members of all sections deliberately pressed me to leave the Medical Service out so far as Ireland is concerned.

Mr. BARNES: Will the certificates be given free by the doctors?

Mr. LLOYD GEORGE: Yes.

Mr. GINNELL: Cannot the right honourable gentleman apply some proportionate part of his further contribution from the Exchequer to Ireland?

Mr. JOHN WARD: Does this mean that the proportionate sum of nearly 3*s*. which it was expected at the time of the passing of the Bill through the House might be available for extra benefits is now taken entirely by the doctors.

Mr. LLOYD GEORGE: That is exactly what I explained—that that margin will not be trenched upon at all.

Mr. LANE FOX: Will this require a supplementary estimate?

Mr. LLOYD GEORGE: Yes; I cannot say when it will be taken.

Mr. CLYNES: In the event of this announcement not having the desired result, does the right honourable gentleman contemplate any organisation of a State Medical Service?

Mr. LLOYD GEORGE: I think my honourable friend had better wait until he sees the effect of the full statement. I could not very well deal with that point in answer to a question.

BOOKS, ETC., RECEIVED.

CHURCHILL, J. AND A., London.

Treatise on General and Industrial Inorganic Chemistry. By Dr. Ettore Molinari, Professor of Industrial Chemistry to the Society for the Encouragement of Arts and Manufactures and of Merceology at the Commercial University Luigi Bocconi at Milan. Third revised and amplified Italian edition. Translated by Dr. Ernest Feilmann, B.Sc., Ph.D., F.I.C. Price 21*s*. net.

Mother and Baby. Outlines for a Young Mother on the Care of Herself and Her Baby. By Selina F. Fox, M.D., B.S., Senior Physician of the Bermondsey Medical Mission for Women and Children. Price 1*s*. 6*d*. net.

CORNISH BROTHERS, Birmingham.

Coprostasis: its Causes, Prevention, and Treatment. By Sir James Sawyer, of London, Doctor of Medicine of University, Fellow of Royal College of Physicians, Fellow of Royal Society. Price not stated.

FALCONER, JOHN, 53, Upper Sackville-street, Dublin. BAILLIÈRE, TINDALL, AND COX, London; JAMES THIN, Edinburgh; JOHN WRIGHT AND CO., Bristol.

Transactions of the Royal Academy of Medicine in Ireland. Vol. XXX. Edited by J. Alfred Scott, M.A., M.D., F.R.C.S.I., General Secretary, Professor of Physiology, Royal College of Surgeons in Ireland. Price not stated.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, London, W.C.

Celluloid, its Manufacture, Applications, and Substitutes. By Masselon, Roberts, and Cillard. Translated from the French by Herbert H. Hodgson, M.A. Camb., B.Sc. Lond., Ph.D. Heidelberg, Lecturer and Research Chemist at the Municipal Technical College, Bradford. Price 25*s*. net.

KING, P. S., AND SON, Orchard House, Westminster, London, S.W.

The Causes leading to Educational Deafness in Children, with Special Reference to Prevention. By Macleod Yearsley, F.R.C.S. Eng., Senior Surgeon to the Royal Ear Hospital. Reprinted from THE LANCET, July 20th and 27th, 1912. Price 1*s*.

Hygiene for Health Visitors, School Nurses, and Social Workers. By C. W. Hutt, M.A., B.C. Cantab., D.P.H. (Oxf.), Senior School Doctor, Brighton Education Committee; late Assistant Medical Officer of Health, Warrington. Price 7*s*. 6*d*. net.

National Conference on the Prevention of Destitution. Report of the Proceedings of the National Conference on the Prevention of Destitution. Held at the Caxton Hall, Westminster, on June 11th, 12th, 13th, and 14th, 1912. President: The Rt. Rev. the Lord Bishop of Oxford. Price 10*s*. 6*d*. net.

LEWIS, H. K., London.

Materia Medica and Pharmacy for Medical Students. With an Appendix on Incompatibility. By Reginald R. Bennett, B.Sc. Lond., F.I.C., Pharmaceutical Chemist, Pharmacist and Teacher of Pharmacy to University College Hospital, London; Member of the Board of Examiners of the Pharmaceutical Society of Great Britain. Second edition. Price 4*s*. 6*d*. net.

Massage and the Original Swedish Movements: Their Application to Various Diseases of the Body. By Kurre W. Ostrom, from the Royal University of Upsala, Sweden. Seventh edition, revised and enlarged. Price 3*s*. 6*d*. net.

Clinical Bacteriology and Hæmatology for Practitioners. By W. D'Este Emery, M.D., B.Sc. Lond., Director of the Laboratories and Lecturer on Pathology and Bacteriology, King's College Hospital; and Lecturer on General Pathology, London School of Medicine for Women. Fourth edition. Price 7*s*. 6*d*. net.

Mind and its Disorders. A Text-book for Students and Practitioners. By W. H. B. Stoddart, M.D., F.R.C.P., Resident Physician and Medical Superintendent of Bethlem Royal Hospital. Second edition. Price 12*s*. 6*d*. net.

ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, Sixty-sixth-street and Avenue A, New York, U.S.A.

Studies from the Rockefeller Institute for Medical Research. Reprints. Vol. XV. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication*

BLAIR, MARY A., M.D., B.S. Lond., has been appointed Clinical Assistant to the Gynæcological Department at the Royal Free Hospital.

COPE, V. ZACHARY, M.D., M.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to the Bolingbroke Hospital, Wandsworth.

CROOKSHANK, F. G., M.D., M.R.C.P., has been appointed Assistant Physician to the Belgrave Hospital for Children.

CUTHBERT, Miss H. H., M.B., B.S., has been appointed House Physician at the Royal Free Hospital.

DENNE, F. VINCENT, M.D. Brux., M.R.C.S., L.R.C.P. Lond., L.S.A. Lond., L.D.S. Eng., has been appointed Dental Surgeon to London County Council School Clinic at the St. Marylebone General Dispensary.

EDMONDS, Miss F. M., M.B., B.S. Lond., has been appointed House Surgeon at the Royal Free Hospital.

EDMONSTONE, C. G., M.B., B.Ch. Edin., F.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Swanscombe District of the county of Kent.

GLENDINING, BRYDEN, M.B., M.S. Durh., F.R.C.S. Eng., has been appointed Gynæcologist to the Hampstead General and North-West London Hospital.

GORDON, RONALD G., M.B., Ch.B. Edin., has been appointed Assistant Casualty Officer to the Hampstead General and North-West London Hospital.

GRAHAM, G. M., M.B., Ch.B. Edin., has been appointed Junior Assistant Medical Officer at the Stirling District Asylum, Larbert.

HOWELL, B. WHITCHURCH, M.R.C.S., L.R.C.P., has been appointed House Physician at the Royal Free Hospital.

MIDDLETON, Miss, has been appointed Clinical Assistant to the Royal Free Hospital.

O'SULLIVAN, D., M.B., B.Ch. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Dingle District of the county of Kerry.

RANSOM, P. W., M.R.C.S., L.R.C.P., has been appointed House Surgeon at the Royal Free Hospital.

SIMMONDS, B. SANGSTER, M.B., B.S., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Casualty Officer at the Hampstead General and North-West London Hospital.

WOODWARD, CHAD, M.B., B.Ch. Edin., F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the Hampstead General and North-West London Hospital.

[1] For full statement see p. 1187.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARKING TOWN URBAN DISTRICT COUNCIL.—Medical Officer of Health, &c. Salary £370 per annum.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Resident Medical Officer for six months. Salary at rate of £60 per annum, with board, residence, &c.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board and laundry.

BIRMINGHAM, CITY FEVER HOSPITAL.—Assistant Medical Officer. Salary £150 per annum, with board and residence.

BRADFORD CITY, INFANT CONSULTATIONS.—Medical Officer (female) Salary £250 per annum.

BRISTOL GENERAL HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with apartments, board, and laundry. Also Throat, Nose, and Ear House Surgeon. Salary £75 per annum, with apartments, board, and laundry.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—House Surgeon for six months. Salary £30, with board, residence, and laundry.

CARMARTHEN, JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, &c.

CHARING CROSS HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board and residence.

CORPORATION OF LONDON, PUBLIC HEALTH DEPARTMENT.—Medical Officer of Health. Salary £1000 per annum.

DERBY, DERBYSHIRE COUNTY COUNCIL.—Assistant Tuberculosis County Medical Officer. Salary £400 per annum.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, &c.

DEWSBURY UNION WORKHOUSE.—Assistant Medical Officer (female). Salary £100 per annum, with apartments, &c.

DORSET COUNTY COUNCIL.—Tuberculosis Medical Officer. Salary £300 per annum.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, attendance, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer for Electrical Department. Salary at rate of £75 per annum, with luncheon and tea.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

GLASGOW UNIVERSITY.—Examinerships.

GORDON HOSPITAL FOR RECTAL DISEASES, Vauxhall Bridge-road, S.W. —House Surgeon. Salary £50 per annum.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing. Also Honorary Dental Surgeon.

HEREFORD, HEREFORDSHIRE COUNTY COUNCIL.—Assistant Medical Officer of Health. Salary £250 per annum.

HERTFORD, COUNTY OF.—Tuberculosis Officer. Salary £500 per annum, rising to £750.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

ISLE OF MAN LUNATIC ASYLUM AND HOME FOR THE POOR.—Assistant Medical Officer. Salary £170 per annum, with board, quarters, and washing.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, apartments, and laundry.

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LINCOLN, COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £125 per annum, with board, lodging, and washing.

LIVERPOOL, COUNTY ASYLUM, Rainhill.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, attendance, and washing.

LONDON HOSPITAL, E.—Assistant Obstetric Physician.

LONDON TEMPERANCE HOSPITAL.—Assistant Resident Medical Officer for six months. Salary at rate of 50 guineas per annum, with board, residence, and washing.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried. Salary at rate of £100 per annum, with board, residence, and laundry.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board and residence.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and laundry.

MANCHESTER CHILDREN'S HOSPITAL, OUT-PATIENTS' DEPARTMENT, Gartside-street.—Assistant Medical Officer for six months. Salary £25.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary £60 per annum.

MANCHESTER, ST. MARY'S HOSPITALS.—Three Honorary Surgeons and Two Honorary Assistant Surgeons.

MERSTHAM, SURREY COUNTY ASYLUM, Netherne.—Junior Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

MERTHYR TYDFIL, BOROUGH OF.—Medical Inspector of School Children. Salary £250 per annum.

MIDDLESEX HOSPITAL, W.—Third Assistant to Director of Cancer Research Laboratories. Salary £150 per annum.

NEWARK-ON-TRENT HOSPITAL AND DISPENSARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £170 per annum, with apartments, attendance, light, and fuel.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Junior House Physician and Junior House Surgeon for six months. Salary £60 each per annum, with residence, board, and laundry.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing. Also Resident Medical Officer. Salary £120 per annum, with board, residence, and laundry.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant Anæsthetist. Salary £50 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Dental Surgeon. Also Medical Officer in Charge of Department for X Rays and Electro-therapy. Salary at rate of £90 per annum.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL (Out-Patient Department only).—House Surgeon. Salary £75 per annum, with board and lodging.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, residence, and laundry.

SOUTHAMPTON PARISH INFIRMARY, Shirley Warren.—Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, washing, and attendance.

STAFFORD, STAFFORDSHIRE COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary £160 per annum, with apartments, board, and washing.

SURREY DISPENSARY, Great Dover-street, Southwark, S.E.—Obstetric Physician. Also Surgeon. Salary in each case 50 guineas per annum. Also Resident Medical Officer. Salary £140 per annum, with apartments, coals, gas, and attendance.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

TOOTING BEC ASYLUM, Tooting, S.W.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, washing

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried Salary £100 per annum, with rooms, board, and washing.

WAKEFIELD GENERAL HOSPITAL.—Second House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

WARWICK COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £175 per annum, with board, apartments, and laundry.

WESTERN OPHTHALMIC HOSPITAL, Marylebone-road, W.—Second House Surgeon. Salary £40 per annum.

WEST AFRICAN MEDICAL STAFF.—Appointments. Salary £400 per annum.

WILLESDEN URBAN DISTRICT COUNCIL ISOLATION HOSPITAL, Neasden. —Resident Medical Superintendent, unmarried. Salary £150 per annum, with board, lodging, and washing.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, washing, and attendance.

WORCESTER GENERAL INFIRMARY.—Physician on Honorary Medical Staff.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Bicester, in the county of Oxford; and at Blyth, in the county of Northumberland.

Births, Marriages, and Deaths.

BIRTHS.

LITTLE.—On Oct. 20th, at Wimpole-street, W., the wife of Dr. E. Graham Little, of a daughter.

MARRIAGES.

ADAMSON—NEWMAN.—On Oct. 19th, at Edmonton, Middlesex, Oswald J. W. Adamson, L.R.C.P., M.R.C.S., of Highgate, to Edith Mabel, youngest daughter of the late James Wilson Newman, of Derby.

PALMER—BROOKE.—On Oct. 10th, at the Parish Church, Killybegs, Captain Cadwallader Edwards Palmer, M.A., M.B. Cantab., I.M.S., to Kathleen, eldest daughter of J. Stuart Brooke, F.R.C.S. Irel., of Brooke Hill, Killybegs, co. Donegal.

STEVENS—PATCH.—On Oct. 22nd, at Tunbridge Wells, G. J. B. Stevens, L.R.C.P., M.R.C.S., L.S.A., to Sarah Jane, youngest daughter of the late William and Jane Patch, formerly of Merriott, Somersetshire.

ROONEY—KING.—On Oct. 15th, at St. Joseph's Church, Gibraltar, Staff-Surgeon John J. Hogan Rooney, R.N., to Evelyn Dorothy, only daughter of John C. King, I.S.O., and Mrs. King, of Gibraltar.

DEATHS.

DUNCAN.—On Oct. 18th, at a nursing home, Andrew Duncan, M.D., B.S. Lond., F.R.C.P., F.R.C.S., Lieutenant-Colonel late Indian Medical Service, eldest son of the late James Duncan, M.B. Lond., aged 62.

O'CONNOR.—On Oct. 20th, suddenly, at The Limes, March, Cambridgeshire, Charles Patrick O'Connor, M.D., M.R.C.S.

WOOD.—On Oct. 22nd, at his residence, Grosvenor-street, Chorlton-on-Medlock, Manchester, John William Atkinson Wood, M.R.C.S., L.R.C.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HOW TO LIVE ON THREEPENCE A DAY.

"LIVE on sixpence a day and earn it" was the sage advice of a celebrated physician as a means of obviating the autogenous diseases flesh is heir to. But a Copenhagen medical man, Dr. Hinhede, has improved on this by advising everyone—and, it is said, rendering it possible to all who will follow his counsels—to live well on 3*d.* a day. Dr. Hinhede's system, we are informed, can be seen in full operation, not only in Copenhagen and Stockholm, but even in any large town in Germany, where the sign "Pension à la Hinhede" can frequently be seen. Cheap nourishment, at a cost not exceeding 12*s.* to 15*s.* a month, can be had from bread, butter or lard, potatoes, fruit, cheese, vegetables, and cereals—meat, alcoholic drinks, tea, and coffee being banned. The apostle in this country of the system is a fellow-countryman of Dr. Hinhede, Mr. C. A. Bang, who is translating the sixteenth Danish edition of Dr. Hinhede's book. It is really true that as a nation we utterly fail to make the most of our foodstuffs, and that far better feeding for those of limited incomes could be had, and for a fractional part of what even the really poor of to-day spend, if only proper methods of selecting, combining, and preparing foods were adopted. When we read of the production of enough spinach soup for six persons for 4½*d.*, of enough potato soup with curry for six persons for 5*d.*, and enough potato croquettes for nine persons for 7½*d.*, we begin to feel that this much is proven. We have not tried the recipes, but judging from those quoted it looks as though inexpensive feeding of the multitude might be more capable of accomplishment than is generally accepted.

PRISON MEDICAL STATISTICS.

THE Commissioners of Prisons and the Directors of Convict Prisons, in their report for the year ended March 31st, 1912, which was dealt with in a leading article in THE LANCET of last week, state that the death-rate in local prisons from natural causes was 0·50 per 1000 prisoners received, the average for the previous 25 years having been 0·52 per 1000. The death-rate from natural causes in convict prisons was 4·9 per 1000 of the daily average population, as compared with 6·3 in the preceding year. The number of persons in local prisons found to be insane and certified as such after reception was 156, as compared with 136 in the previous year; and in convict prisons 45, as compared with 43. Of the 156 cases certified in local prisons, 106 were found to be insane on reception, and 19 exhibited symptoms of insanity within a month after reception. Many of those who were in prison for some time before the usual symptoms of insanity were observed were known to be of weak intellect or mentally impaired on reception or to have been previously insane. The number of prisoners who were released from local prisons on medical grounds (exclusive of pregnancy) was 29 and from convict prisons 4. There were 8 suicides in local prisons during the year and 1 in a convict prison. The number of prisoners formally recognised as being so feeble-minded as to be unfit for the ordinary penal discipline was 522 in local prisons and in convict prisons 100. The report of the medical inspector (Dr. Herbert Smalley), in which he deals at considerable length with the question of the treatment of the feeble-minded, is printed in full as an appendix to the report of the Commissioners.

A MEDICAL OFFICER'S SALARY AND THE LOCAL GOVERNMENT BOARD.

THE Local Government Board is to be congratulated upon its intervention in the case of Dr. D. J. McLeish, recently appointed by the guardians and rural district council of Cockermouth as their joint whole-time medical officer, with a proposed salary of £300 a year. At an interview with the two bodies mentioned, Dr. R. A. Farrar, representing the Local Government Board, pressed upon them the necessity of either raising the sum named to £500 or of allowing their medical officer to undertake private practice, as £300 a year would be insufficient to maintain the status and dignity of their medical officer among his professional brethren. The alternative of allowing private practice was accepted, and it is to be hoped, in the interest of the gentleman appointed, that it may produce the equivalent suggested.

AN ELABORATE PETTY FRAUD.

A WELL-DRESSED man posing as a medical practitioner is stated to have recently obtained in several instances sums of money from the keepers of nursing homes. His ractice has been to telephone first, and then to call and arrange for the reception of an alleged patient about to be operated upon by an eminent surgeon, giving on the occasions that have recently been described the name of Sir Alfred Fripp as the proposed operator. After this somewhat elaborate preliminary he has spoken of charitable rescue work on the Thames Embankment in which he has alleged himself to be interested, and has departed after obtaining a pecuniary contribution from the matron of the nursing home. The self-supposed benevolent physician, who gave himself the name of "Sir Richard Storr," needless to say, did not return nor did the patient arrive, and a telephone message to the house of Sir Alfred Fripp, or whatever surgeon was named, set at rest any doubt as to his character. The matter is mentioned in order that any repetition or variation of the fraud may be detected, and the person attempting it, if possible, detained, and it may be added, for the benefit of ladies keeping nursing homes, that respectable medical practitioners are not likely to endeavour to obtain money from them for the furtherance of charities.

A MEDICAL BOOK CATALOGUE FOR INDIA AND AUSTRALASIA.

Messrs. Butterworths, of Bell-yard, Temple, E.C., who have recently established departments for medical literature at their Calcutta and Sydney offices, have issued a very comprehensive catalogue, embracing some 3000 books of all the medical publishers, for the use of the profession in India and Australasia, to whom copies of the catalogue will be sent gratis on request. The books are arranged alphabetically under the subjects of which they treat, and the index to authors contains the names of over 2000 writers on medical and allied subjects. Messrs. Butterworths, who have been appointed special agents for the sale of THE LANCET in India and Australasia, are the sole publishers in India of some of the principal medical works, including Osler's "Principles and Practice of Medicine" and Latham's "System of Treatment."

J. C. W. will be much obliged if any professional brother could recommend a home suitable to a dentist who has only a few shillings a week. He is 65 years of age, and has had to give up work because of old-standing and very extreme osteitis deformans, coupled latterly with amblyopia.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

Oct. 24th–27th (Rome).—Fourth International Congress of Physical Education.
" 29th–Nov. 2nd (London, Royal Horticultural Hall).—Twenty-third Universal Cookery and Food Exhibition.

In 1913:—
(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.
April 26th (Ghent) (opens).—International Exhibition.
Aug. 6th–12th.—(London).—Seventeenth International Congress of Medicine.
Sept. 2nd–6th (Groningen).—International Physiological Congress.
" 22nd–28th (Milan).—Fourteenth International Anti-alcoholic Congress.
September (Birmingham).—British Association.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 23rd, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 17	30·11	S.W.	0·04	85	57	46	47	49	Fine
" 18	30·33	W.	...	88	59	42	43	44	Fine
" 19	30·14	W.	0·02	90	59	44	48	50	Fine
" 20	29·83	S.W.	...	83	57	45	46	48	Cloudy
" 21	29·33	S.W.	0·41	75	50	43	43	44	Fine
" 22	29·34	N.	0·04	65	50	44	44	45	Overcast
" 23	29·45	S.W.	0·05	57	48	40	41	41	Foggy

The following journals, magazines, &c., have been received.—Annals of Tropical Medicine, Archiv für Experimentelle Pathologie und Pharmakologie, British Journal of Dental Science, British Journal of Dermatology, Pediatrics, Canadian News, Peru To-day, Medical Record, Canadian Practitioner and Review, Journal of Nervous and Mental Disease, Journal of Comparative Pathology and Therapeutics, Detroit Medical Journal, Interstate Medical Journal, American Medicine, St. Mary's Hospital Gazette, Journal of Obstetrics and Gynæcology, Revue de Gynécologie, Pacific Medical Journal, Proceedings of the Royal Society of Medicine, Journal of Anatomy and Physiology, Quarterly Journal of Experimental Physiology, Albany Medical Journal, Dublin Journal of Medical Science.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SECTION OF ODONTOLOGY (Hon. Secretaries—Stanley P. Mummery, Robert McKay): at 8 P.M.

Presidential Inaugural Address:
Mr. P. Sidney Spokes.

Paper:
Mr. Thomas G. Read: Bread in Relation to Dental Caries and Other Evils.

Casual Communications:
Mr. G. Northcroft: Misplaced Mandibular Premolar.
Mr. W. de C. Prideaux: An Improved Anæsthetic Facepiece.

THURSDAY.

SECTION OF NEUROLOGY (Hon. Secretaries—Wilfred Harris, T. Grainger Stewart): at 8.30 P.M.

Presidential Address:
Dr. H. H. Tooth, C.M.G.: Observations upon the Growth and Survival Periods of Cerebral Tumours, Based upon the Records of 500 Cases, with Special Consideration of the Group of the Gliomata (illustrated by micro-photographs).

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—Dan McKenzie, E. A. Peters): at 4.30 P.M.

Cases and Specimens:
The President, Mr. J. F. O'Malley, Mr. F. F. Muecke, Mr. A. R. Tweedie, Dr. James Donelan, Mr. H. J. Davis, and others.

SECTION ON ANÆSTHETICS (Hon. Secretaries—H. J. Scharlieb, C.M.G., H. E. G. Boyle): at 8.30 P.M.

Dr. G. A. H. Barton: (1) Death during Hedonal Infusion Anæsthesia; (2) Demonstration of Apparatus for Intratracheal Insufflation of Ether.
Dr. J. F. W. Silk: Demonstration of Dr. Elsberg's Apparatus.
Mr. H. E. G. Boyle and Mr. G. E. Gask: Demonstration of their Apparatus.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish square, W.

MONDAY.—8.30 P.M., Communications Relative to Hedonal Anæsthesia—(1) Mr. C. M. Page: A Further Communication as to its Uses in General Surgery; (2) Dr. Z. Mennell: Its Uses in Surgery, especially of the Nervous System; (3) Mr. L. E. B. Ward: Its Uses in Children; (4) Mr. J. F. Dobson: Objections to the Use of Hedonal.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—6.15 P.M. to 7.15 P.M., Mrs. F. F. Andrews: Reception and Short Address. 7.30 P.M., Dr. F. H. Hayward: Statistical Theory for Teacher and Administrator.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichbourne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Discussion on the Preparation of the Patient, Selection of Anæsthetic, and Method in Difficult Types of Persons during Abdominal and Pelvic Operations (opened by Dr. D. Buxton).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. S. G. Shattock: Specimens illustrating Diseases of the Genito-urinary Organs. (Museum Demonstration.)
WEDNESDAY.—5.30 P.M., Mr. J. F. Colyer: John Hunter's Specimens illustrating the Natural History of the Human Teeth. (Museum Demonstration.)
FRIDAY.—5 P.M., Prof. A. Keith: Specimens illustrating the Comparative Anatomy of the Cæcum and Appendix; of the Gall-bladder; of the Thyroid; and of the Tonsil. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. J. L. Bunch: Some Skin Diseases and their Treatment.
TUESDAY.—4 P.M., Dr. R. H. Miller: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. E. R. McDonagh: The Rational Treatment of Venereal Diseases.
WEDNESDAY.—4 P.M., Mr. A. J. Walton: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. E. Clarke: Myopia and its Treatment.
THURSDAY.—4 P.M., Mr. A. Carless: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. S. Fairbairn: Uterine Hæmorrhage without Obvious Lesion.
FRIDAY.—4 P.M., Mr. G. J. Jenkins: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: Some Special Tests.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 11 A.M., Mr. Addison: Demonstration of Minor Operations 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. G. Stewart: Diseases of the Pituitary Body.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Mr. T. Gray: Demonstration of Fractures, &c. 11.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin 5 P.M., Lecture:—Dr. Bernstein: Clinical Pathology.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations on the Throat, Nose, and Ear. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture: Dr. Beddard: Practical Medicine.
THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. G. Stewart: Diseases of the Pituitary Body.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Disease.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat. 5.15 P.M., Special Lecture:—Sir Dyce Duckworth: Clinical Notes on Cirrhosis of the Liver.
TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir M. Morris: Skin Clinique (alternate Tuesdays). 4.30 P.M., Special Lecture:—Sir William Bennett: Some Fallacies of Routine Treatment.
WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.
THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Dr. C. Singer: Some Recent Advances in our Knowledge of Gastric Diseases.
FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine 3.15 P.M., Mr. L. McGavin: Surgery.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Dr. W. Steuart: Radiography.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. M. Leslie; Room IV., Dr. S. Thompson. 4 P.M., Wards, Dr. M. Leslie. 4.30 P.M. to 5.30 P.M., Lecture Hall, Lecture-Demonstration.
TUESDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. Phear; Room IV., Dr. B. King. 2 P.M., Operations and Throat Clinic, Mr. A. Evans. 3 P.M., Wards, Dr. White. 3.30 P.M., Wards, Dr. Phear. 4.30 P.M., to 5.30 P.M., Lecture Hall, Lecture-Demonstration.
WEDNESDAY.—2 P.M., Wards, Dr. A. Davies. Out-patient Department—Room III., Dr. Drysdale; Room IV., Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan. 7 P.M., Department for the Prevention of Consumption.
THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. M. Leslie; Room IV., Dr. S. Thompson. 4.30 P.M. to 5.30 P.M., Lecture Hall, Lecture-Demonstration.
FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert. Out-patient Department—Room III., Dr. Phear; Room IV., Dr. B. King. 3.30 P.M., A Special Clinical Demonstration by one of the Out patient Physicians.
SATURDAY.—10 A.M., Out-patient Department—Room III., Dr. Drysdale; Room IV., Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

WEDNESDAY.—4.30 P.M., Opening Address:—Prof. Sir Almroth Wright: Lymph Lavage as a Therapeutic Measure.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Mr. Addison: Hernia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Holmes: Topographical Diagnosis of Lesions of the Brain Stem.—5 P.M. Dr. S. A. K. Wilson: Neuropathology. (Special Course.)
WEDNESDAY.—5 P.M., Dr. J. Collier: The Clinical Examination of Cases of Disease of the Nervous System. (Special Course.)
THURSDAY.—5 P.M., Dr. C. M. H. Howell: Anatomy and Physiology of the Nervous System. (Special Course.)
FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Holmes: Topographical Diagnosis of Lesions of the Brain Stem.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Dr. Mackenzie: Artificial Pneumothorax.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, Chelsea Bridge-road, S.W.

FRIDAY.—4 P.M., Lecture:—Mr. Greenwood: Some Methods of Epidemiological Research.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—2 P.M., Dr. W. Griffith: Bacteriology of the Skin.
THURSDAY.—6 P.M., Dr. M. Dockrell: The Treatment of Eczema in all its Forms.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

THURSDAY.—4 P.M., Mr. S. Stephenson: The Duty of the Practitioners in Cases of Ophthalmia Neonatorum.

ROYAL DENTAL HOSPITAL OF LONDON SCHOOL OF DENTAL SURGERY.

TUESDAY.—6 P.M., Mr. D. Gabell: The Rendering (apart from Extraction) of an Unclean Mouth Cleanable by the Patient's Daily Attention. (Post-Graduate Lecture.)

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Mr. W. H. Hey: Tuberculosis of the Spine and Hip. (Post-Graduate Clinic.)

MANCHESTER ROYAL INFIRMARY.

TUESDAY.—4.30 P.M., Dr. G. R. Murray: Some Diseases of the Spleen and Lymphatic Glands. (Post-Graduate Clinic.)
FRIDAY.—4.30 P.M., Mr. A. H. Burgess: Painless Hæmaturia. (Post-Graduate Clinic.)

SALFORD ROYAL HOSPITAL.

TUESDAY.—Dr. C. C. Heywood:—The Early Diagnosis of Pulmonary Tuberculosis. (Post-Graduate Demonstration.)

For further particulars of the above Lectures, &c., see Advertisement Pages.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (31st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M. Aural and Ophthalmic), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily. At the Western Ophthalmic Hospital operations are performed on Monday, Tuesday, Thursday, and Friday at 3 P.M., and on Wednesday and Saturday at 11 A.M.

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Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County & Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.